

TECHNOLOGY

REVIEW *May* 1951



technology review

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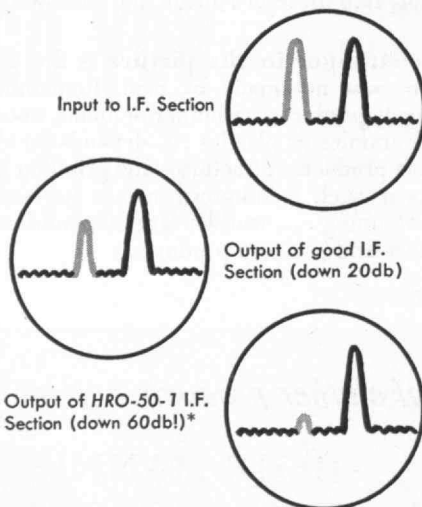
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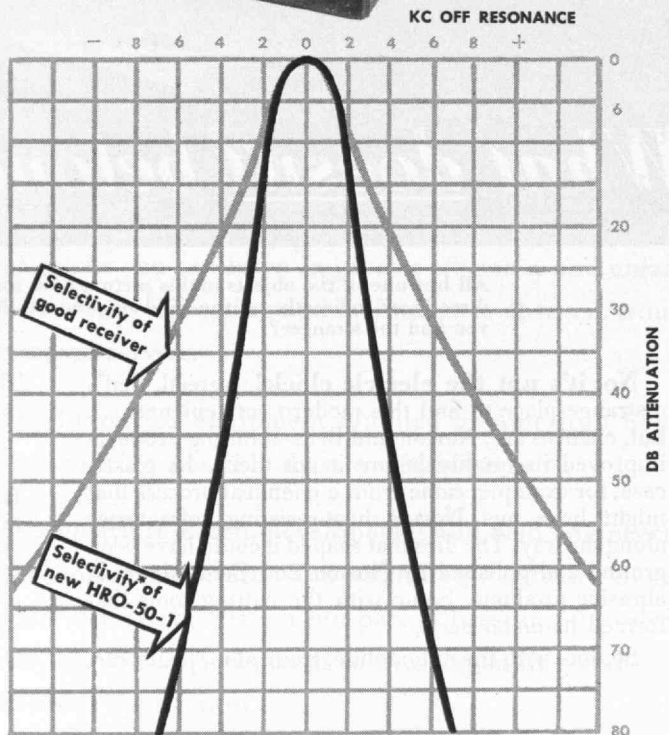
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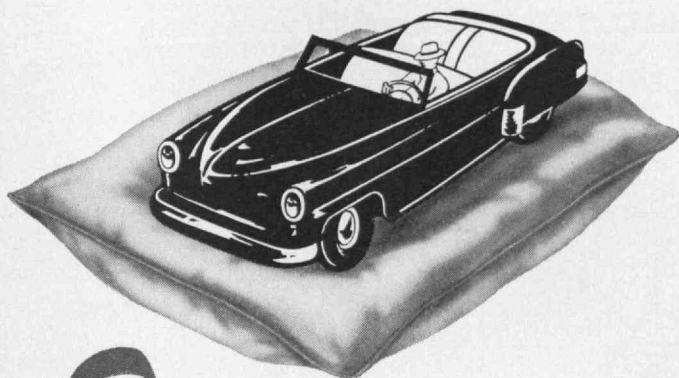


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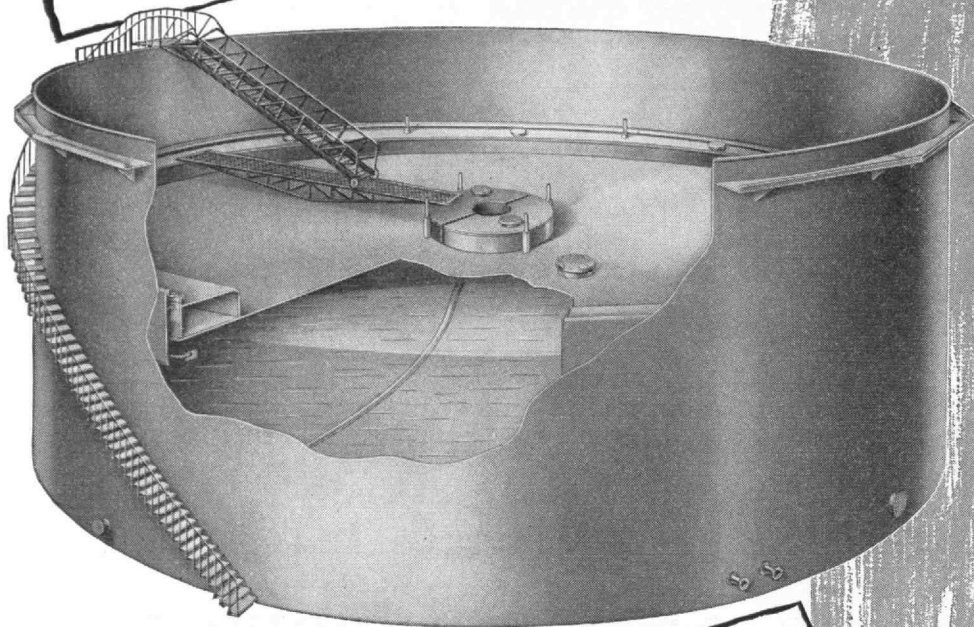
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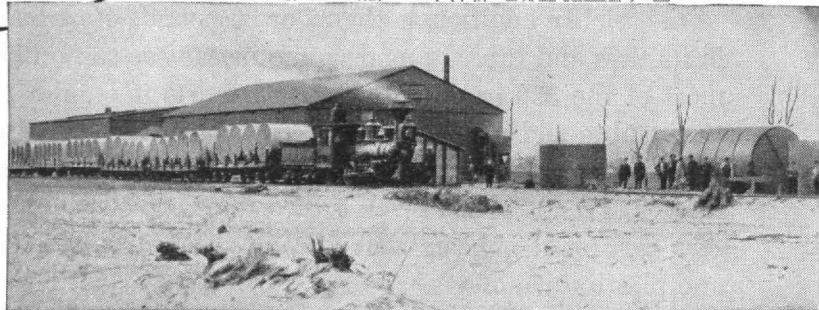
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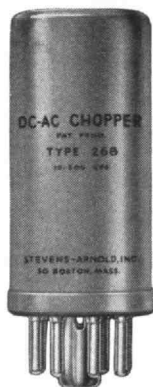
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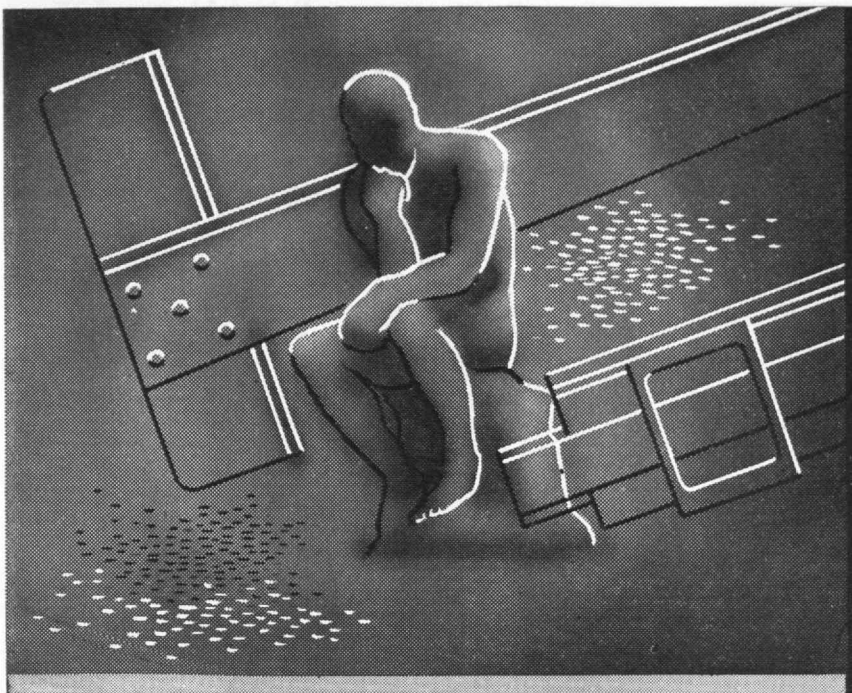
22 ELKINS STREET, SOUTH BOSTON 27, MASS.

THE TABULAR VIEW

Geologically Speaking. — In these dissenting days it is sometimes good to put out of mind the latest blunders of politico-statesmen, in favor of indulging in the purifying atmosphere of communion with nature, especially if international good will can be fostered in the bargain. One highly successful venture into scholarly Canadian-American co-operation, in effect at Antigonish, St. George's Bay, Nova Scotia, is described (page 345) by JOHN J. ROWLANDS whose firsthand knowledge was gained on a trip to Acadia last summer. In earlier years, Mr. Rowlands spent some time in Canadian mines and forests before becoming New England manager of the United Press, between 1917 and 1923. Since 1925 he has been director of the M.I.T. News Service and for almost as long he has been an editorial associate of *The Review*. When not engaged in furthering the Institute's public-relations program, Mr. Rowlands enjoys wood carving, camping, travel, or writing. He is author of *Cache Lake Country* (illustrated by Henry B. Kane, '24).

Benevolent or Virulent? — One's attitude on what may be good or bad too often depends upon circumstances — upon whose ox is being gored. So it is, for example, with the mesquite tree which, for many decades, was regarded as an object of beauty and a hardy plant of very considerable utility. But of late this spiny, deep-rooted mimosaceous tree or shrub has come to be regarded, especially by cattlemen, as a noxious brush whose elimination is imperative. Something on both sides of this controversy is presented (page 351) by CARL C. WRIGHT who urges "an intelligent program of control rather than a program of wholesale destruction." Mr. Wright received the M.A. degree from the University of Texas in 1946 where, for the past five years, he has been an instructor in English. Mr. Wright is doing research for a book on the mesquite tree and has had articles in the *Southwestern Historical Quarterly*, *American Forests*, *The Cattleman*, and *Progressive Farmer*.

Exploded Dream. — In *The Review* for April there appeared the first of a two-part article portraying the saga of the long search for a vast rich land at the southern portion of the world. In this issue WILLY LEY carries the story to its logical conclusion (page 353) with the explorations of Captain James Cook, whose voyages definitely proved that whatever Southland was still unexplored had none of the value anticipated at the time. Mr. Ley is an editorial associate of *The Review* whose writings reflect his interest in the history and interpretation of science. He has taken his turn at newspaper science writing and scientific research. More recently he has devoted himself to lecturing and writing on current topics in science and technology, in a serious effort to interpret science for the nonspecialist. Volumes written by Mr. Ley include: *Rockets*; *The Days of Creation*; *Bombs and Bombing*; *Shells and Shooting*; *The Lungfish, the Dodo, and the Unicorn*; *The Conquest of Space* (illustrated by Chesley Bonestell); and *Dragons in Amber*.



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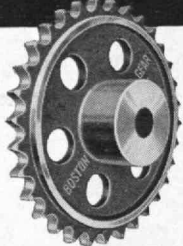
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MAIL RETURNS

When Science Was Simpler

FROM MRS. WILLIAM C. EWING, '97:

I would like to tell you how much pleasure I have had during this last year in receiving *The Review*. I have enjoyed the pictures, the Class Notes, and especially those articles about our old teachers, such as that in the December, 1950 issue, "William T. Sedgwick, Biologist."

Many of the technical articles I follow with interest, and those by Dr. Compton and President Killian were delightful and inspiring. Though I graduated in the days when science was a much simpler matter, and feel that I hardly have a right to claim a degree from M.I.T. as it is now, I am proud to do so.
Williamsburg, Va.

A Chemist's Guess

FROM WILLIS R. WHITNEY, '90:

Regarding covered bridges and Mr. Burt's suggestion (January, 1951, *Review*, page 132) of additional reasons for covering them, I'd suggest that it was principally the carefully fitted wooden upper constructions—the bridge elements difficult to replace—that it was found desirable to protect from weather and weathering which they undergo from rain, freezing, and so on during all seasons. The planks or roadway wear out anyway, but are easier to replace. A chemist's guess; not an engineer's.
Schenectady, N.Y.

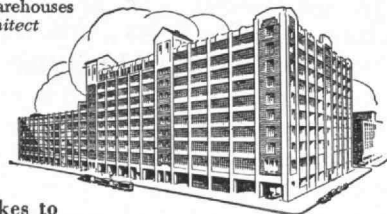
Not Bored

FROM GORDON G. HOWIE, '13:

Congratulations on the fine article ["The Blasted Bore"] about the Hoosac Tunnel in the January, 1951, *Review*. It is a long time since the author and I started our railroad work, when we produced that marvel of engineering, the bridge over the Charles River for the Belt Line Railroad, as described in our joint thesis in 1913.

I have enjoyed other articles by Mr. Cameron and realize the great amount of research involved to obtain the facts for these treatises, but more than that, they are assembled in a most interesting and readable manner.
Cambridge, Mass.

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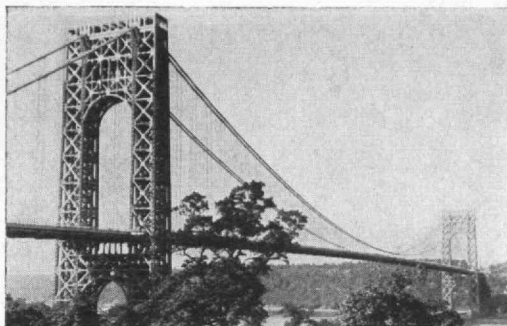
Whether motoring to Wyoming's sky-blue Jackson Lake (above) or just down to the corner store, why is it that more Americans travel on Goodyear tires than on any other kind? It's because car makers, who really know tires, put more Goodyear Super-Cushions on the new cars than any other kind. It's also because motorists find that the Super-Cushion leads in all-around performance, and buy more Goodyear Super-Cushions than any other low-pressure tire. *Doesn't it stand to reason that the tire that gives the most people the greatest satisfaction in safety, soft ride and mileage is the tire for you to buy?*



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Charles H. Hughes, '00

The Half Moon missed this catenary.

THE TECHNOLOGY REVIEW

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Ward Allan Howe

Free Country

THE TECHNOLOGY REVIEW

Vol. 53, No. 7



May, 1951

The Trend of Affairs

The Violable Brain

NOT so long ago the human brain was thought to be inviolable, and any injury to, or interference with, that organ was assumed to be necessarily fatal. Vulnerability of the cranium is still recognized in the continued use of combat helmets when the conditions of modern warfare have made other body armor obsolete. Similarly, protective headgear is held to be a prime means of minimizing injury from industrial accidents.

A dramatic demonstration of the fact that the human brain is not necessarily inviolable may be seen in the "crowbar skull" that is displayed in the museum of the Harvard University School of Medicine at Boston. This is the actual skull of a Nineteenth-Century workman who was tamping blasting explosives with a crowbar when the charge exploded. The metal bar was projected completely through the front of the workman's head so that a good deal of the forward portion of his brain was destroyed, as evidenced by holes in the skull marking sites of entrance and exit of the bar. Through sheer good fortune the victim did not succumb to the infection, hemorrhage, or shock that usually would have claimed anyone suffering such a degree of injury in those times, when medical science lacked much of the armamentarium for coping with trauma that it enjoys today. The workman recovered, lived for years, and suffered no apparent physical or mental impairment. His temperament, however, is reported to have become radically altered. Previous to the accident, the victim was reputed to have been a mild and reserved man, whereas afterwards he became irascible and profane.

The fact that survival is possible with part of the brain lacking is sometimes demonstrated in modern college biology lectures. This demonstration may be done by cutting out, under anesthesia, the cerebrum

or front lobes of the brain of a pigeon. Barring surgical accidents, the bird survives; but its behavior is markedly changed from the normal. Usually a notably nervous and active creature, the pigeon when deprived of its forebrain becomes apathetic and lethargic. It reacts only to the strongest of stimuli, and then slowly. Left to itself, the bird sits drowsily, and never flies of its own accord. Nevertheless, when thrown into the air, a decerebrate pigeon rights itself and flies to the nearest perch. This fact is exploited by lecturers with a flair for showmanship. They allow the bird to perch somnolently on the lecture bench during their discourse, and then, as a climax, hurl the bird out into the auditorium where it takes wing and then alights, usually on the head or shoulders of one of the students.

Modern brain surgery has now, as is well known, made entry into the human skull, and operations on the human brain, relatively commonplace. Advances in the special techniques of brain surgery (thanks largely to the brilliant Harvey Cushing), plus general surgical progress in reducing deaths from shock and infection, have made such procedures as removal of brain tumors and the repair of brain injuries highly successful.

Another type of brain operation that has recently come to the fore is manipulation of the human brain for the purpose of alleviating mental disorders. Thus, in the United States during the last decade and a half, some 5,000 mentally ill persons, largely schizophrenics, have undergone an operation known as prefrontal lobotomy. In this procedure none of the brain is removed, but the frontal lobes are detached from the remainder of the organ by severing the connecting tissues. This operation has accomplished the allayment of violent individuals, and in some cases the return to the home, or even to gainful occupation as well, of patients who previously had to remain in institutions for the mentally deficient.

The large experience with prefrontal lobotomy that has now accumulated is making possible thorough analysis of the effects of this operation on personality and mental capacity. From such studies it now appears that a major change produced is loss of the ability to think abstractly. No means of re-establishing this faculty has been found. Since abstract thinking is needed to cope with many situations in today's complex society and is, in fact, one of the salient differentia that set mankind above the other animals, the gravity of this loss is manifest.

Thus today the human brain can no longer be considered inviolable, and mechanical alteration of the brain has become a useful tool for coping with mental disease. Nevertheless, in view of the crippling intellectual handicap now believed to be caused by prefrontal lobotomy in its present state of development, this operation is held to be an expedient of last resort, to be applied only when other forms of treatment fail.

Blast-Resistant Structures

THE magnitude and destructiveness of forces produced by explosion are problems that must be approached experimentally as well as theoretically. During and after World War II, extensive theoretical and some experimental researches were carried out in an effort to establish the effect of a blast or nearby explosion on buildings. An experimental investigation is presently being carried on in the Structural Dynamics Laboratory of the Department of Civil and Sanitary Engineering, to determine the behavior of structural elements under impulsive loading. This

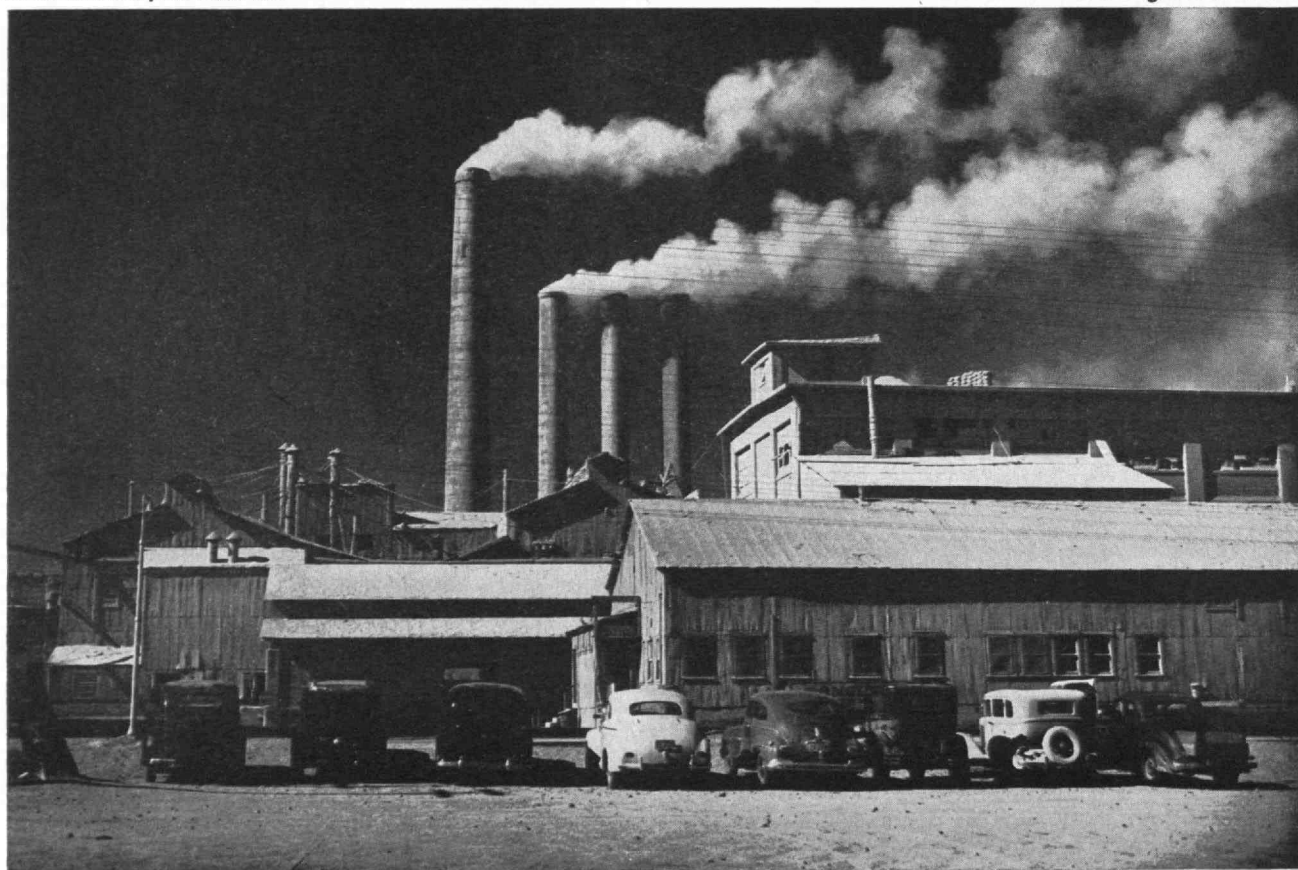
work, which is sponsored by the Office of the Chief of Engineers, Department of the Army, is being supervised by Professor John B. Wilbur, '26, and directed by Robert J. Hansen, '48, Associate Professor of Structural Engineering, both of the Department of Civil and Sanitary Engineering.

Two unique machines have been constructed in the laboratory which can produce an impulsive point load and an impulsive uniformly distributed load, respectively. Among the elements tested are reinforced concrete beams (continuous and simply supported), frames, slabs, and rectangular steel beams. Steel bolts in double shear have also been tested for impulsive loading. By a high-pressure cylinder-piston arrangement, the rapid load machine will produce a concentrated impulsive load on a structure. The load, which is applied to the structure by the piston rod, may be controlled both in magnitude and duration. An electronic timer, with appropriate electric circuits, controls the time of initiation and release of the load along with other associated events, such as starting and stopping of cameras. The events recorded during a dynamic test of a reinforced concrete beam include the deflection and load at the center point as functions of time.

A large number of reinforced concrete beams of various cross sections and with various percentages of reinforcing steel have been tested in the rapid load machine. The various events recorded during a dynamic test enable calculation of the energy absorbed by the test specimen. The static energy absorption is obtained by performing static tests on the same type of specimen; thus a relationship between static and dynamic energy absorption may be obtained.

Arthur L. Child from *Black Star*

Today and . . .



The results of loading on reinforced concrete beams indicate that 15 per cent to 30 per cent more energy is absorbed under dynamic loading than under static loading. Tests on rectangular steel beams show this same increase under dynamic loading. It is believed that the increase in energy absorption of reinforced concrete beams under impulsive loading is due to an increase in the strength of the reinforcing steel under the rapid rate of straining.

The ultimate aim of the present test program in the Structural Dynamics Laboratory is to establish design procedures for structures to resist impulsive loads, incorporating the parameters of behavior determined in the laboratory experiments.

Ferroelectrics and Ferromagnetics

Two series of isomorphous substances, which have an important variety of interactions with electric, magnetic, and mechanical fields, have been studied extensively at M.I.T. They are represented by magnetite ($\text{FeO} \cdot \text{Fe}_2\text{O}_3$) and barium titanate (BaTiO_3). The former — lodestone — is the oldest magnetic material known to man, but its technical significance has only recently been fully recognized. The ferroelectricity of barium titanate, however, was discovered but eight years ago.

Isomorphous with each of these are a variety of crystals, respectively called ferrites and perovskites. All of these substances may be prepared as strong ceramics by casting, molding, or extruding; and they promise to become increasingly useful in instrumentation, power devices, and radio and radar communications. They have application as crystal pickups and other electro- or magnetomechanical transducing devices, such as strain gauges, accelerometers, electro-optical or thermosensitive devices, and delay lines with delay times that may be made to depend upon temperature or field. These materials are effective in reducing the bulk of capacitors and as high-frequency magnetic cores. As nonlinear devices, they may serve as field-controlled tuning capacitors, or as electric or magnetic units which "remember" whether or not they have received a previous electric, magnetic, thermal, or mechanical signal.

Research on the fundamental physical properties of these substances and consideration of their applicability is being actively pursued at the Laboratory for Insulation Research, under the direction of Professor Arthur R. von Hippel of the Department of Electrical Engineering. This research, which is sponsored by the Office of Naval Research, the Army Signal Corps, and the Air Force, spearheaded the development of barium titanate ceramics and the study of the fundamental properties of barium titanate single crystals. These ceramics have dielectric constants of several thousand, and strongly piezoelectric properties can be induced in them by the momentary application of an electric field. They are being used in lightweight capacitors, phonograph pickups, and sonic and ultrasonic devices. Recently, large single crystals of magnetite have been grown from the melt, and extensive studies have been made of their static and microwave magnetic properties. The growing of large barium titanate single crystals is also under investigation.



H. Armstrong Roberts

... Yesteryear

Barium titanate and magnetite have the property in common that, below a certain Curie temperature, their crystal structures acquire a spontaneous electric polarization and a spontaneous magnetization, respectively. The best known crystal exhibiting spontaneous magnetization is iron, hence the names ferroelectric and ferromagnetic. Unlike iron, magnetite is a nonmetal and its poor electric conductivity minimizes eddy current losses. While a crystal structure may spontaneously polarize or magnetize, a single crystal of such a compound usually divides into regions or "domains" differing in the direction of this spontaneous dipole movement. Such substances exhibit hysteresis in their response to applied fields; that is, their condition after the application and subsequent removal of a field differs, in general, from their condition previous to this treatment. They also have abnormally high magnetic or electric susceptibilities.

One of the present tasks of the Laboratory for Insulation Research is to find out enough about the processes of polarization, magnetization, and conduction in such materials to allow insulators to be tailor-made to almost any desired specifications. Aside from direct studies of ferroelectrics and ferromagnetic nonmetals, the research includes work on dielectric breakdown and high field strength phenomena, on the gradual transition from insulating to semiconducting and metallic properties, on crystallographic structures of new compounds, on dielectric and optical spectroscopy, and on paramagnetic and ferromagnetic resonance phenomena at microwave frequencies.

Servotechniques in Industry

THE increased importance which automatic control systems play in operating giant industrial processes has brought about the need for a re-evaluation of process control system techniques, analysis, and design. A firm basis for modern process control system principles of analysis and synthesis must be established before a quantitative study can be made of the improvement in the yield of a process plant, achieved by the lowering of waste during continuous manufacturing, or before direct control can be established over the quality of products or materials produced by chemical synthesis plants.

Servomechanism theory has reached a degree of advancement wherein many industrial processes can be studied upon a thoroughly quantitative basis. Measuring apparatus, amplifier equipment, high-power machinery serving to manipulate the process, and the process, itself, can be treated according to well-established patterns of mathematical analysis. By bringing the study of automatic process control systems within the scope of servotechnique, a direct approach can be made to the development and synthesis of a wide variety of control schemes. Multiple variable types of environment controllers can be designed; certain quality parameters, which measure the usefulness or market acceptability of a product, can be brought under feed-back control; and from carefully planned studies of analysis and synthesis, combinations of environment and quality controllers often emerge in such a way that quality control has dominance over environment control. Quality and environment control systems may be brought under a still higher stratum of automatic control; namely, supervisory control, which

serves to optimize the plant operation under conditions of continued external disturbances, variable purity of raw material, changing weather, and varying production schedules.

Along with the theoretical studies in feed-back control systems which have been in progress at the Institute for several years, an experimental program has been inaugurated to insure that the new investigations of industrial process control follow a sound scientific path. The Departments of Electrical and Chemical Engineering are fostering this activity in an interdepartmental research program which makes fullest use of the Institute's educational and research resources. The staff members who are active in carrying out this new type of process control research are: Donald P. Campbell, '43, Assistant Professor of Electrical Engineering, who is in charge of the project; Paul E. Smith, Jr., G., and Leonard A. Gould, '48, instructors; and Raymond C. Quick, '50, a research assistant — all of the Department of Electrical Engineering. Professor Harold C. Weber, '18, of the Department of Chemical Engineering, and Professor Gordon S. Brown, '31, of the Department of Electrical Engineering, have been acting in an advisory capacity for the program.

The present laboratory investigation is designed to study the application of servocontrol techniques to chemical processing plants. To this end, a small-scale chemical distillation plant has been constructed, with the aid of the Brown Instrument Company, upon which dynamic response tests can be carried out in order to confirm the general theories of distillation dynamics. Both the experimental and theoretical studies are proceeding on a reasonably wide front in investigations of the conditions of boiling, condensation, and heat exchange in nonhomogeneous media. It is hoped that results of this work will ultimately lead to means for designing unit process systems upon a basis of dynamic rather than of steady-state equilibrium.

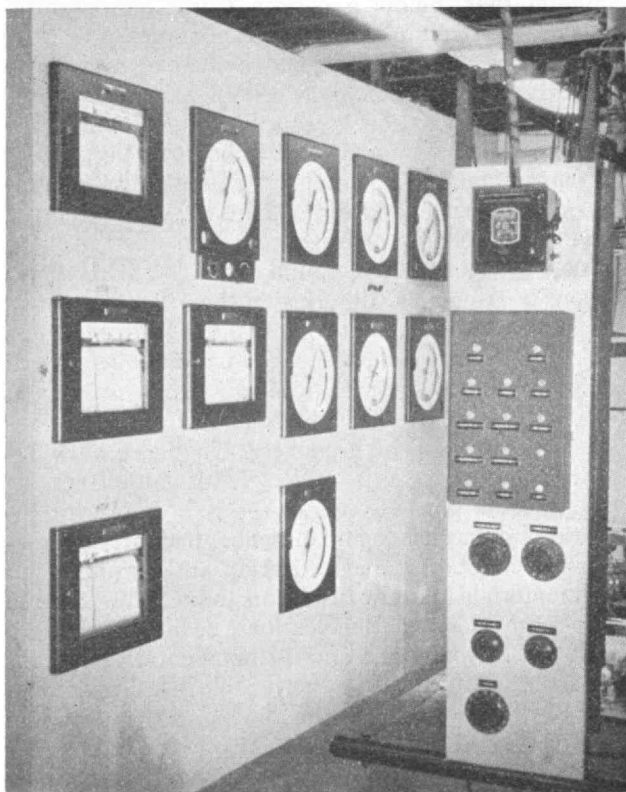
To date, the column has been tested in steady-state operation, and some transient tests have been made on the system which indicate the thermal gradients in the column during start-up and shutdown. Dynamic response studies, which utilize frequency-response technique of measurement, will be carried out at Technology by summer.

Flutter Speed Safely Determined

A NEED has long existed for a technique of finding the flutter speed of actual aircraft by means of flight tests which do not subject test pilots or airplanes to undue hazard. Recent research, completed in the Institute's Department of Aeronautical Engineering by Martin D. Schwartz, '47, and Donald L. Wrisley, 6-45, of the Division of Industrial Cooperation, gives promise of permitting the flutter speed of aircraft to be determined with greater certainty than is possible by current procedures, which sometimes prevent high-performance aircraft from attaining their full capabilities when they are in operation because of overconservative restrictions.

Flutter is a spontaneous, self-excited, divergent oscillation of the wing that occurs when the aerodynamic forces and moments arising from the wing's motion

(Continued on page 380)



Improvements in continuous process manufacturing may be expected to stem from automatic process control studies of a chemical pilot plant whose control panels are shown above.



Walter L. Whitehead, '13

Once the manor of a tranquil seaside farm, this fine old house, now headquarters for the Nova Scotia Center for Geological Sciences, looks out across St. George's Bay to the dim outline of Cape Breton Island — 20 miles to the north.

Acadia — Place of Plenty

*Canadian and American Students Find Ample Opportunity
to Cement International Friendships while Studying
Nova Scotia's Unusually Varied Geology*

By JOHN J. ROWLANDS

FEW visitors to Nova Scotia are aware of the importance and variety of its mineral resources or realize that Canada's most easterly province rests upon some of the earth's oldest rocks. Geologists, however, have long found Nova Scotia's hills, its coastal slopes, and rugged headlands a stimulating and fruitful field for study.

In fact, while studying the petroleum reserves of Nova Scotia several years ago, two M.I.T. geologists encountered most of the scientific and practical problems that geologists face in practicing their profession. As their investigation continued they became convinced that the region was an ideal location for field training in geology, with the added advantage that such a program could be carried on in close association with active prospecting as well as long-established mining operations.

The geologists who conceived the idea were Walter L. Whitehead, '13, Associate Professor of Geology,

and Professor Robert R. Shrock, who is now head of the Institute's Department of Geology. They discussed their ideas with Nova Scotian educators and officials of the provincial government, and further study led to specific proposals for a summer school for training and research in geology. As a result, in 1948, the Nova Scotia Department of Mines and M.I.T. joined in establishing the Nova Scotia Center for Geological Sciences at Crystal Cliffs on St. George's Bay in the northwestern part of the province.

The plan on which the Center operates is a simple and straightforward one. The Government of Nova Scotia provides facilities for, and bears the expense of, the summer geology field training center. M.I.T. directs the program and provides a teaching staff for undergraduate and graduate instruction based on the requirements of its own curriculum. The school is open to qualified students from Canadian colleges and other educational institutions. In return the Nova



Fishing vessels entering Antigonish Harbor get this view of the Geological Center with its cottages, used by students and staff, along the shore, and the manor beyond against a backdrop of the spruce-clad hill.

Scotia Department of Mines has the opportunity of presenting problems associated with the discovery and development of mineral resources and thus benefits from the field studies, research, and reports of the staff and the students who participate.

The curriculum covers a period of eight weeks, of which the latter part is devoted to practical field mapping and detailed geological studies in various parts of the region. During the working week most of the students live under canvas in outlying camps, where they quickly adapt themselves to the requirements of outdoor living. Each party works under the direction of a student leader, a system which, in addition to its value in teaching geology in the field, is effective in developing qualities of resourcefulness, responsibility, and leadership.

A fine old Canadian homestead, Crystal Farm, standing on the shore of St. George's Bay was chosen as an ideal location for the Geological Center. The homestead, which takes its name from the towering gypsum cliffs along its shore, lies nine miles north of the historic town of Antigonish, a Micmac Indian word meaning "the place where branches were broken off the trees by bears gathering beechnuts."

The buildings of the Center stand on a magnificent tract of 650 acres of forest and fields bordering on Antigonish Harbor. The headquarters is a fine old manor house, the original interior walls of which are built of logs and filled with tamped clay. Its massive stone foundation was quarried from nearby limestone deposits and the water-struck bricks of its walls were made nearby from the fine red clay that is characteristic of the region. Although most of the signs of a working farm disappeared when the property was converted to its present purpose, the caves in the nearby gypsum cliffs, in which ice is found throughout the year, recall days of abundance when the meat and produce grown on the farm were stored in these glistening gypsum refrigerators.

A large barn which was built only a few years ago was completely remodeled to serve as a spacious auditorium seating 200. It is completely equipped for lectures, large technical conferences, and concerts, as well as motion-picture and theatrical entertainment, and with its huge fireplace is the center of the academic and social life at Crystal Farm. The basement has been fitted for geological laboratory work, photography, and for the storage of specimens and supplies.

Members of the staff as well as students are housed in a number of modern cottages which bear the names of famous geologists. A separate residence has been built for the director of the Center, and the most recent addition is a large dining hall with accommodations that provide for an increase in enrollment for several years.

Unless they are at very remote camps, student parties usually return to the headquarters at Crystal Cliffs at the end of the week to work up their notes and consult with members of the staff, who in addition to lectures, visit the camps to supervise the program. Geological studies in the region have been the subject of several important theses which have added to the knowledge of the geology of Nova Scotia.

Last year the Department of Mines held an international conference on coal resources which brought representatives from many of the great coal-producing centers of the world. The success of this conference and the unique facilities which make the Center eminently suitable for such gatherings indicate its use for many such meetings in the future.

The Center had 54 students last year, including (in addition to students from the Institute) representatives from Rutgers University, the University of Notre Dame, Franklin and Marshall College, Williams College, St. Lawrence University, and Amherst College. Nova Scotia colleges represented were the Nova Scotia Technical College, St. Francis Xavier University, and Acadia University. Students at the graduate level

included five who were working for the master's degree and three for the degree of doctor of science. Indications are that applications for the summer geology school will increase.

Dr. Whitehead has been director of the summer geology school since it opened and has been active in its expansion to meet the needs of a rapidly increasing group of students. Members of the Institute's Faculty who served on the instructing staff last summer include: Harold W. Fairbairn, Associate Professor of Geology; Louis H. Ahrens, Assistant Professor of Geology; Patrick M. Hurley, '40, Assistant Professor of Geology; and Roland D. Parks, Associate Professor of Mineral Industry.

Responsibility for administering the Center has been shared by Donald J. MacNeil, Professor of Geology at St. Francis Xavier University, who serves as secretary and represents the Nova Scotia Department of Mines, and Dr. Whitehead. They have labored together with enthusiasm and wisdom, and the early success of the project reflects their careful planning and effective direction.

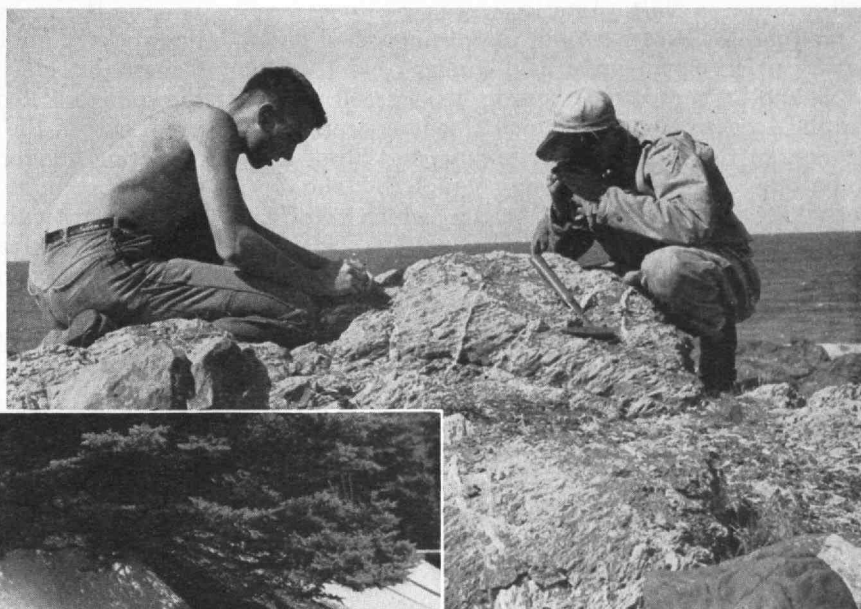
The Center is governed by a board composed of the Honourable Alexander H. MacKinnon, Minister of Mines; John P. Messervey, Deputy Minister of Mines; Dr. Whitehead; Dr. Shrock; Dr. MacNeil; Harold D. Smith, President, and Robert D. Howland, Vice-president of the Nova Scotia Research Foundation; Allan

E. Cameron, President, Nova Scotia Technical College; and M. Bancroft of Acadia University; as well as Norman Parlee, Director of Research, Dominion Steel and Coal Company, Sydney Mifflin of the Dominion Steel and Coal Company; J. H. L. Johnstone, Head of the Department of Physics, Dalhousie University, and Norman Avard of Joggins.

Angus L. Macdonald, Premier of Nova Scotia, and the Nova Scotia Research Foundation have encouraged the program of the Center and expansion of its objectives by their concern for the most effective development of the province's resources.

The region in which the Center stands is not only interesting geologically, but is rich in the lore of the early and troublesome days of the province. The venturesome souls who came to settle the new land faced the hazards of hostile Indians, long and bitter winters of deep snows and North Atlantic gales, and later the depredations of privateers who roved the western ocean and raided the lonely settlements for loot and provisions. But the pioneers clung to their footholds on the edge of the sea and while they slowly cleared their farms they learned to live on what the sea provided in great abundance. To this day many of the farmers of Nova Scotia divide their time between working the land and offshore fishing or gathering lobsters and oysters. In summer their nets are set along the shore to catch salmon returning to spawn.

Right: Many of the most interesting geological formations lie along Nova Scotia's north shore. Here two students examine a specimen with the open reaches of the Gulf of St. Lawrence lying beyond.



Left: Wash-up time at Camp Williams, one of the most picturesque outlying camps where students live during their field studies. Usually, those conducting field studies return to headquarters, Crystal Farm, for week-end consultations.

The first British settlement at Antigonish was established by disbanded officers and soldiers of the Royal Regiment of Nova Scotia Engineers in 1784. Seven years later and again in 1796, Highland Scottish immigrants came to Nova Scotia and settled along the coast in the region of the town. Other Scottish settlers followed and their names are perpetuated by their descendants to this day.

This region which lies within a radius of approximately 50 miles of the Geological Center includes Cape Breton Island and the mainland of Nova Scotia from the Strait of Canso to Pictou on its western shore. Crystal Cliffs is located in a section which offers innumerable practical geological problems, and thus provides students with the type of experience they will find most useful in practicing their profession. Cape North, which stands at the western side of the entrance to St. George's Bay, is a towering headland that looks northward across Northumberland Strait to Prince Edward Island and the Gulf of St. Lawrence. To the east, across water as blue as the Mediterranean, looms Cape Breton Island which is separated from the mainland by the Strait of Canso.

The area contains various types of rocks, ranging in age from extremely ancient formations to comparatively recent deposits of the glacial period. It is a region of mines and quarries where evidence of several minerals has been found and some petroleum is being produced. Here it was that some of the earliest geological research in North America was carried out.

Sir John William Dawson, the distinguished geologist, carried on intensive field studies from 1843 to 1856, and later reported them in his classical monograph, *Acadian Geology*, which chiefly concerns the geology of the shores of Northumberland Strait and Cape Breton Island. In this monograph Sir John discussed the origin of the term "Acadia," which has often been attributed to the early French settlers. It is, according to Sir John, a Micmac Indian term meaning "plenty here." His source of information was an old Micmac Indian, Martin St. Pierre, whom he had known in his boyhood.

In 1845 Sir William E. Logan, the first director of the Geological Survey of Canada, described what are now the famous Joggins coal deposits on the Bay of Fundy. Sir William uncovered tree trunks with their roots thrust deep through the coal seams into the underlying shale. Another famous geologist who studied Nova Scotia during a field trip in July, 1859, was William Barton Rogers, founder of M.I.T. — the scientific school which was not to open in Boston until six more years had elapsed.

Thrusting far out into the Atlantic in the rough outline of a dog baying at Newfoundland across Cabot Strait, Nova Scotia lies close to the great continental shelf. Through the ages in which the North American continent gradually took form, this region was subjected to most of the telluric violence which changed the shape of the earth's crust.

Beneath the scenic beauty of the province lie rocks of ages ranging from the Mesozoic to the Pre-Cambrian period which are largely covered by a deposit of glacial drift that forms the foundation for its luxurious forests and pasture lands.

The oldest rocks in Nova Scotia, formed before any record of life began, are classified as Pre-Cambrian and are thought to have been created by erosion from a land area that once stood in a great inland sea.

As time measured in geological ages went on, the sea bottom and foreshore lifted above the water level, thus producing by erosion material that eventually became the rocks of later geological ages. So it was that rocks of the Pre-Cambrian era contributed to the Cambrian. The latter, with older rocks, contributed to the younger Paleozoic structures, and these in turn became part of the sediments of the Mesozoic era.

During hundreds of millions of years the sea level changed many times, resulting in the creation of several seaways with marked changes in intervening land areas. These upheavals were associated in some localities with violent eruptions of molten liquid rock from the interior of the earth, and the spreading of the lavas over the sea bottom changed the composition of the sediments that had already been deposited.

NOVA SCOTIA GEOLOGICAL TIMETABLE

ERA	PERIOD	YEARS AGO	CHARACTERISTIC LIFE
Mesozoic	Triassic	170 million	Age of reptiles
	Carboniferous	220 million	Great coal age, Abundant plants
Paleozoic	Devonian	300 million	Primitive fishes, First known land plants
	Silurian	350 million	Age of invertebrate animals
	Ordovician	400 million	First primitive vertebrates
	Cambrian	500 million	No known land animals
Proterozoic		600 million	Primitive life
Archeozoic		to 2 billion	No determinable fossils

The geology of Nova Scotia is a complex one because of the accumulation of these thick layers of sediments, and the successive upheaval and erosion of the land which produced the forms in which they appear today. The ranges are made up largely of rocks that were formed originally from sand, mud, and calcareous ooze in a fairly horizontal stratification in what must have been a great inland sea. As the bottom of this sea slowly subsided, layer after layer was added. The composition of these sediments and the thickness of the layers were apparently controlled by distance from the shore, depth of water, and the composition of the various deposits.

In these sediments were buried specimens of the plant and animal life existing at the time, and now in the form of fossils they help in reconstructing the history of the land through the ages. In the Pre-Cambrian rocks are found the primitive invertebrates, Algae, the earliest known fossils, which are followed by those of the age of shelled or higher invertebrates. Fossils of fish first appear in the Silurian and Devonian rocks, and the creation of pools of petroleum is attributed to enormous concentrations of marine growth trapped in inland seas or basins.

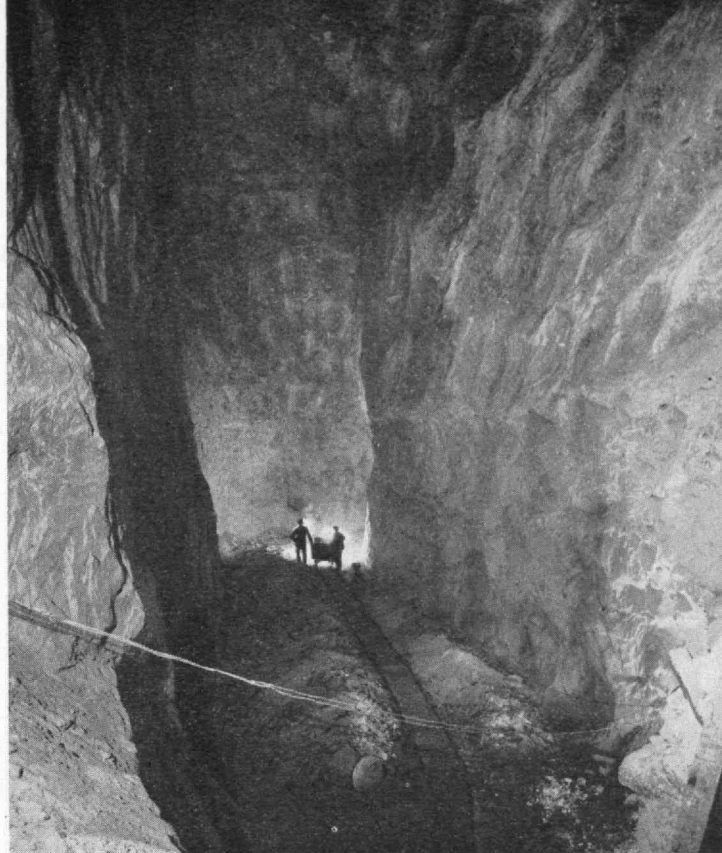
The age of amphibians and tree-like forms came with the formation of the Carboniferous and Permian rocks, and it was in the Carboniferous age that Nova Scotia's great deposits of gypsum, limestone, and salt were formed. It was during this period that the luxurious plant growth, which thrived under semitropical conditions, produced the materials which later formed the great coal resources of the province.

After the Permian age, came the rocks of the Triassic, Jurassic, and Cretaceous ages, the heyday of reptiles and dinosaurs. Of this geologic group only the rocks of the Triassic period have been recognized in Nova Scotia.

Grooves, or striae, formed by the glacial ice in its ponderous progress across the land, are found in exposures of bedrock at various places in the province. The best known of these are at Point Pleasant Park at Halifax. The glacial drift becomes so heavy in some parts of the province as to form dome-like hills called "drumlins." Several of these occur in Halifax, including two islands in the harbor, and more than 200 drumlins may be seen in the Mahone Bay region. Their locations indicate that the glacial ice moved in a southeasterly direction. The glaciers also left telltale signs of their progress in the form of eskers, narrow ledges of sand and gravel, a long chain of which is found in the vicinity of the Sydney River from East Bay to Sydney Bridge.

The well-preserved stumps of trees that formed a forest ages ago and were drowned by the sea are found at several locations along the shore of the Bay of Fundy. The stumps of trees, still firmly held by their roots, are to be seen at St. Lawrence and at Yarmouth at low tide.

Along the northern shore of Nova Scotia on the Bay of Fundy is the North Mountain Range, which is composed of lava, or what is known as "trap" rock. This range stretches from Cape Blomidon to Brier Island, a distance of 120 miles, and is crossed by tidal gaps at three points, Petite Passage, Grand Passage, and the well-known Digby Gap. The North Mountain

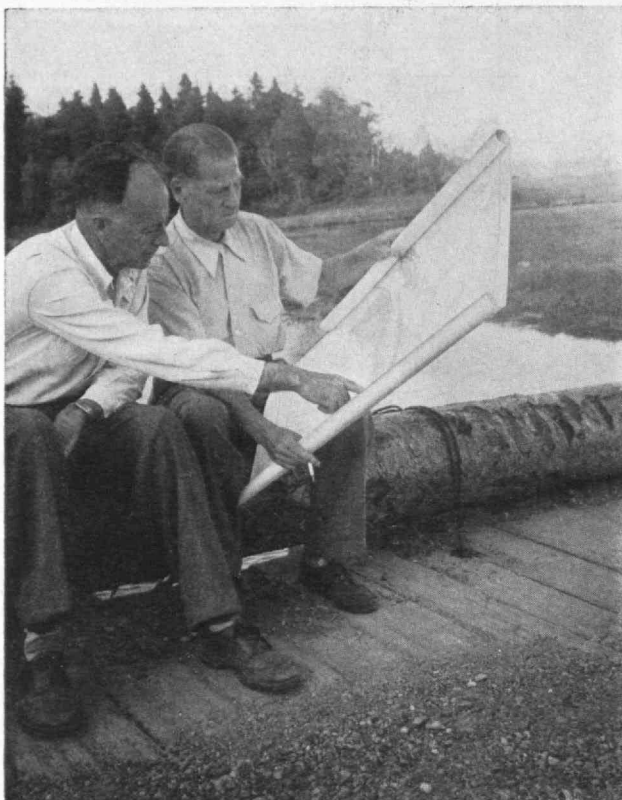


The cathedral-like stope with crystal pillars of salt deep in the Malagash Salt Mine in northwestern Nova Scotia.

Range and the Cobequid Range to the northeast of it are separated by Minas Channel and the Minas Basin. The Cobequid Mountains reach from the end of the Bay of Fundy to the vicinity of Pictou at a distance of more than 70 miles. These mountains are composed chiefly of crystalline rocks, such as granite, syenite, diabase, and felsite. Further to the northeast, where the Cabot Trail circles the northern part of Cape Breton Island, are found the remains of an ancient Atlantic upland which forms a 1,200-foot tableland. In this region lies the Cape Breton Highlands National Park which offers some of the most magnificent scenery of eastern North America.

If the Norsemen, as some believe, landed on Nova Scotia about the year 1000 A.D., they may have seen the dark outcropping of coal seams along the coastal cliffs of Cape Breton Island. Whether John Sebastian Cabot, who visited Nova Scotia in 1498, discovered coal no one knows. However, Nicholas Denys, who was appointed governor of the province by the King of France in 1637, was quick to report that "there is a mountain of very good coal four leagues up Sydney Harbor, of a quality equal to any in France."

Nova Scotia's coal fields are among the important deposits of the continent and are a valuable economic resource for eastern Canada. The coal is bituminous, and while the quality varies according to location, the coal from the Sydney area on Cape Breton has proved valuable for blast-furnace coke and is used in large quantities by the steel mills in that region. This includes the famous Bras d'Or Lake district, Sydney Mines, New Waterford, Glace Bay to Morien in Cape Breton County. There are also mines at Chimney



Donald J. MacNeil (left) Professor of Geology at St. Francis Xavier University, and Walter L. Whitehead, '13, Associate Professor of Geology at M.I.T., who together share in the direction and progress of the Geological Center.

Corner, St. Rose, Inverness, Mabou, and Port Hood in Inverness County. The Pictou mining region includes Westville, Thorburn, and Stellarton, where the mines are the deepest coal workings in the world. There are also important mines at Springhill, Joggins, River Herbert, Maccan, and Chignecto in Cumberland County in the region adjacent to New Brunswick.

Many of the coal seams of the Sydney region dip seaward, and the workings of a number of mines extend several miles from shore beneath the ocean.

Nova Scotia's coal production in 1949 amounted to 6,196,322 tons, and, in addition to supplying an important part of the needs of eastern Canada, the province shipped a considerable tonnage to the United States and South America.

Next in importance to coal is Nova Scotia's production of gypsum, of which the province has one of the largest deposits on the continent. This is the source of more than 92 per cent of Canada's supply of this important mineral. Enormous quantities of gypsum are shipped to the United States, which is the principal market, and the reserves will meet all requirements for years to come. Gypsum has been mined in Nova Scotia for more than a century and was an important product during the Revolutionary War, when farmers found it profitable to quarry the rock by hand from their own lands. Production in 1949 was 2,558,891 tons.

The gypsum deposits of the province originated in the Carboniferous age and are found in association with limestone and other rocks. The deposits range in thickness from a few feet to approximately 200 feet. The chief use for gypsum, or calcium sulphate, is in the manufacture of plaster and wallboards, but it is

also an important ingredient of thermal-insulating materials and of Portland cement.

In the form of ornamental stone, which is suitable chiefly for interior decorations, gypsum is known as alabaster, and it is also the chief constituent of plaster of Paris. The paper industry also uses very finely pulverized gypsum as a filler, and it is employed for the same purpose in the manufacture of certain textiles, as well as in paints, insecticides, explosives, cosmetics, chalk, linoleum, and oilcloth.

Salt is an important mineral resource of Nova Scotia and is produced both by mining and by evaporating brine pumped from drilled wells. Most of the salt produced in Canada is used for agricultural uses and dairy products, and for the preservation of meats and fish. The production in 1949 was 85,090 tons.

Although farmers made use of the salt springs much earlier, the commercial production of salt in Nova Scotia apparently began about 1813, when a two-foot shaft was sunk near a salt spring in Pictou County. Although this operation was not successful, brine from the nearby spring was later used for the manufacture of salt. One of the largest of Nova Scotia's salt mines is at Malagash, and others are found in widely separated parts of the northern section of the province. One of the largest is at Nappan, where two holes were drilled and salt was struck at a depth of 812 feet. This operation is capable of producing 170 tons of salt a day by means of evaporators. In holes drilled in search of petroleum, salt has been encountered at depths of more than 1,000 feet in zones several thousand feet thick. In the Mabou region in Inverness County, the salt zone reached from a depth of 1,395 feet to the bottom of the hole at 5,579 feet. In another operation, salt was found at 4,480 feet and had not been penetrated when drilling operations were stopped at a depth of 6,869 feet.

While Nova Scotia is not distinguished for the production of gold, the metal is widely distributed throughout the province and has been mined from at least 1860, and possibly earlier. Indications are that the province has large bodies of gold-bearing ore of low or medium grade. The production of gold in 1949 was 105,750 ounces, and the total production from 1862 to the end of 1949 was 1,143,360,112 ounces. The undying lure of gold keeps prospectors active, however, and the search for promising outcrops of gold-bearing rock goes on continually.

The wide variety of Nova Scotia's minerals is a challenge to further study and research on ways and means to make it profitable to mine and process deposits which have little economic value under present methods of treatment. In the work of the Nova Scotia Center for Geological Sciences lies not only new hope of developing these resources, but the expectation that it will lead to the discovery of new and richer deposits of minerals, as well as petroleum, for all of which there are encouraging geological signs.

Whatever the Center may accomplish in the field of economic geology it will be no more important and heartening than the significance of this joint enterprise of academic and governmental groups of two great countries sharing in the truest sense of international good will the fruits of friendship and technological progress.

The Mesquite Tree and the Southwest

*Long Praised for Its Beauty and Great Usefulness,
the Hardy Mesquite Is Now Being Fought as a
Merciless Invader of Cattle-Grazing Land*

By CARL C. WRIGHT

FROM the period of exploration and conquest in the Sixteenth Century to the present era of industrial development, the mesquite tree is the Southwest's most impressive figure in the family of woody plants. Though recent control and eradication of mesquite for better livestock ranges may threaten the tree's prestige, its significance in primitive culture and history is indeed far-reaching.

A godsend to Indian and pioneer, the mesquite has been praised for its usefulness and its beauty; and until the rise of extensive livestock industries in the 1930's, the tree was rarely regarded as a menace. Today most livestock producers and ecologists look upon mesquite as noxious brush, a merciless invader which robs the range lands of valuable grasses, and causes difficulty in the handling of cattle. That range owners have reason to be concerned can hardly be denied, since about 50,000,000 acres of grassland in Texas alone are said to be infested. But it is hoped by many people of the Southwest that an intelligent program of control, rather than a program of wholesale destruction, will be followed.

This stand is valid, they say, if only for practical reasons. Soils with a scanty grass cover which are subject to blowing would not be helped through the elimination of shrubs and trees, owing to the danger of wind and water erosion. But there are other reasons; appreciation for the beauty of the tree is felt by thousands of people, and few who know the Southwest's history fail to recognize the tree's significant role.

Defenders of the mesquite tree praise its good qualities. The tree produces a nutritious bean relished by livestock; it greens out in the spring and furnishes tender twigs for grazing; and the leaves are a forage, especially during droughts or before grasses are abundant. Mesquite wood is an excellent fuel and a durable material for fence posts. As a tree or a shrub, mesquite helps to prevent soil erosion. It provides a desirable shade for stock in a climate where a burning sun is characteristic. Its flowers are a source for pure, white honey. And some ranchmen claim that the tree's long roots draw underground water to the surface during droughts and encourage the growth of grasses.

When seeds of the mesquite were sent in 1930 from Honolulu to Bahrein, a small island off the coast of Arabia, this plant had encircled the globe. From Chile and Brazil in South America it ranges north to south-central Kansas, flourishing especially in Texas, New Mexico, and Arizona, and is found in the West Indies, Australia, Africa, Persia, and India. A member of the

mimosa family, the mesquite belongs to the genus *Acacia*, of which there are about 300 species. The three varieties in the United States are generally classified as: honey mesquite (*Prosopis juliflora* var. *glandulosa*); velvet mesquite (*P. juliflora* var. *velutina*); and western honey mesquite (*P. juliflora* var. *Torreyana*).

Typically a shrub or a tree, mesquite varies in growth habits, which are affected by climate, moisture, and soils. In fertile land it may reach a height of 40 feet and attain a trunk diameter of nearly three feet. Although frequently low-spreading with crooked branches, it is rarely symmetrical in shape. Whether a thorny shrub, a cluster of switches, or a tree, it has a well-developed root system, vertical and lateral roots growing to enormous lengths. Pioneers who found gnarled mesquite on the dry plains decided that fires had driven this tree underground; they "dug for wood" in "subterranean forests."

Random glances at the mesquite in history reveal its usefulness to mankind. An early account of the mesquite bean as food is found in Cabeza de Vaca's narrative. Indians filled a dirt hole with beans and ground them into a meal with a wooden pestle. The meal was transferred to baskets and covered with water. A banquet followed this simple process, which for several hundred years was known to various tribes of American Indians. A writer in the *Report of the Commissioner of Agriculture* for 1870 describes the food products of Indians with special emphasis on mesquite beans:

They are not only nutritious, but a preventive of thirst, having an agreeable blending of acidity and sweetness, somewhat like the early harvest apple. The pods, when in their fresh ripe state, are put into a wooden or stone mortar and bruised, then emptied into an earthen dish, mixed with water and allowed to stand for a few hours, the result being a cold porridge or mush . . . As the fruit or bean-like pods ripen they are gathered for winter use, being thoroughly dried and stored in cylindrical-shaped baskets . . . The Indian women pound the dry pods until reduced to a fine powder, which being mixed with a little water, is pressed into large thick cakes of several pounds weight, and dried in the sun, to be used as circumstances require.

George Wilkins Kendall, a member of the Santa Fe expedition, which left Austin, Texas, in 1841, states in his journal that when "provisions and coffee fell short," the men ate mesquite beans "raw in immense quantities, and also either roasted or boiled them." The Mexicans used beans in making "beer as well as sugar."

Long before the middle of the Nineteenth Century, as Josiah Gregg states in his *Commerce of the Prairies* (published in 1844), the mesquite tree in the Southwest had "attained some celebrity." Books written by Spanish naturalists on the plants of New Spain soon after the conquest of Mexico by Cortes show that most uses of the *mizquitil* originated with the Indians, who gave what they knew to the Mexicans. And Americans entering the unsettled Southwest were amazed at the foods and remedies furnished by a tree which reminded them of the peach tree of Kentucky and Georgia. Indians and Mexicans not only used the bean for food, but also the leaves, bark, and gum for remedies in various diseases.

In 1854 William B. Parker traveled through unexplored Texas on an expedition commanded by Captain Randolph B. Marcy and published a book¹ which gives impressions typical of many sojourners. "The tree grows singly," he notes, "and at such regular intervals as to resemble a plantation, and so much like a peach orchard that one cannot divest himself of the idea . . ." He tells an amusing story of a teamster "who one evening . . . with a load of stores, got behind the train, and on coming into camp without his team, was asked where he had left it. 'Out in that old peach orchard,' was his reply."

Parker also observes that mesquite wood "burns readily with a clear flame, leaving a very hot and perfect coal, like hickory." His greatest interest, however, was in the commercial possibilities of the gum he saw exuding from the tree, an amber product which even today receives the attention of chemurgy. "The subject of employing the Indians, in collecting this gum, was seriously entertained by gentlemen on the frontier . . . and no doubt the experiment will be made with every probability of profitable success. . . ."²

Whether this particular project succeeded is not known, but the *Report of the Commissioner of Agriculture* for 1872 shows that in 1871 the gum was "an article of export, some 12,000 pounds having been gathered in Bexar County [Texas], and as much more between that and the coast." Shipped to the East, this gum was employed in the manufacture of both gumdrops and mucilage.

In a biological survey of Texas at the turn of the century a federal agent wrote that mesquite gum needed "only introduction to a market to become of commercial value." It had long been used in Mexico in the preparation of medicines; dissolved in water, the gum served as a gargle for sore throat. For the Pimas it had been a treatment for sore eyes and open wounds. In 1945 the Texas Forest Service of Agricultural and Mechanical College of Texas reported that one type of mesquite gum could be used as "a substitute for gum arabic, gum tragacanth, Indian gum, and ghatti gum, of which the United States imports 10,000,000 pounds annually. These gums are used in the manufacture of pharmaceuticals, confections, mucilage, textiles, and cigars."

Perhaps no part of the mesquite has served so well as its durable wood with a wide range of uses. Lipan

and Apache Indians made bows of mesquite. In 1810 the Mexican leader Morelos fought the Spanish with a cannon constructed from a mesquite log. Early settlers in the Southwest made pickets of mesquite and used the wood for joists, rafters, studs, and floors in their cabins and mills. Mesquite wood was "equal to that of cedar for the purposes of fences" and formed a "principal and suitable article for fire-wood," writes Mary Austin Holley³, whose book on Texas was published in 1836. Describing the resources of Texas in 1858, J. De Cordova⁴ says that mesquite wood was "used to the exclusion of every other wood for making hubs and spokes, and is highly spoken of, by shipwrights, for making the ribs and knees of small vessels. In durability it exceeds almost any other wood in use."

The city of San Antonio used hexagon-shaped blocks of mesquite to pave a street in 1901. Such pavings are said to last a quarter of a century without serious deterioration. Although a survey in South Texas of the commercial possibilities of mesquite wood in 1916 showed that only 10 per cent of the wood examined was suitable for logging, recent research indicates that opportunities may lie in another direction. According to the report made by the Texas Forest Service: "It appears that chemical processes — in which the material may be used in bulk in the form of chips or wood fiber — hold the key to any industrial opportunities for utilization of great volumes of mesquite or brush."

Unfortunately utilization research thus far has not been adequate to determine what products could profitably be manufactured from woody fiber, which may be an excellent chemical raw material. Production of tannin for the hide and oil industries and fiber for paper and paperboard products may well prove to be feasible.

The singular story of the mesquite's extensive invasion of the treeless regions of the Southwest probably begins with its entrance from Mexico, where herds of horses and cattle were turned loose by Spanish explorers. These animals and the wildlife — buffalo, rodents, and birds — undoubtedly dispersed the mesquite's hard-cased seed far north of the Rio Grande. The vigorous seedlings found competition from native grasses, but these grasses were weakened first through burning by Indians and later through overpasturing by the white man.

Pioneers also burned accumulated grasses each year to protect their homes from accidental fires and, or so they thought, to improve pasturage for their horses and cattle. Although "burning over" probably did much to hold mesquite in check, it certainly ruined hundreds of acres of good sod and paved the way for rapid infestation as soon as the practice was discontinued.

By 1875 the buffalo had disappeared from the prairies, and the Indians had been removed from Texas by act of Congress. For almost a decade the grasslands were, in a sense, left unmolested. The years from 1874 to 1884, according to Jared G. Smith, an agrostologist for the Department of Agriculture in 1908, "may be

(Continued on page 376)

¹ William B. Parker, *Notes Taken during the Expedition Commanded by Captain R. B. Marcy through Unexplored Texas*, page 105 (Philadelphia: Hays and Zell, 1856).

² Parker, *opus cited*, page 170.

³ *Texas*, page 17 (Lexington, Ky.: J. Clarke and Company, 1836).

⁴ *Texas: Her Resources and Her Public Men*, page 273 (Philadelphia: E. Crozet, 1858).

The Great Dream—II

In the Continued Search for the Great Southland, Australia and Many Islands in the Pacific Ocean Were Discovered. But the Myth of the Fabulous Southland Was Exploded by Captain Cook in 1775

By WILLY LEY

AT this point it is necessary to go back for a few decades and to discuss business. Just after these first big trips by da Gama for Portugal and by Columbus for Spain, the heads of both governments realized that their efforts at exploration, colonization, and long-distance commerce would lead to deadly rivalry. There would be clashes on far-off coasts; there would be disputing claims from both sides. There would be war between them, sooner or later. They had the choice of going to war with each other right then and there, or to attempt mediation before anything happened.

So both went to the pope, and the head of the Church was willing to settle these worldly matters, too. The pope, Alexander VI, Borgia, decided as follows: he drew a line around the globe, going from pole to pole, partitioning the earth into a Western and an Eastern Hemisphere. The Eastern Hemisphere enclosed the larger portion of Greenland; and of the Americas the eastern "bulge" of South America—roughly the Brazil of today. It included all of Europe, Africa, Arabia, India, and Asia except for its eastern tip. That hemisphere was handed over to the Portuguese, to colonize all land in it that did not already belong to somebody else; to trade with all the countries in it that would accept such trade. It might be better to say that the Spaniards were to keep out of that hemisphere, even though Spain itself was in it, of course. On the other hand, the Portuguese had no rights in the other hemisphere—all of North and most of South America, and everything east of Korea.

The agreement worked well, especially as far as the Americas were concerned where that line could be well determined. But when it came to the other half of the meridian, things became

difficult. It is true that the Portuguese concentrated on the spice trade, while the Spaniards preferred gold. But the Spaniards would accept some spice trade too, and the prize, the Spice Islands, the Moluccas, were just on that line.

Saying that they were right on that dividing line means to express the most conciliatory point of view. Both Portugal and Spain were convinced that the Moluccas were on their side of the line. Each country had no trouble finding several recognized expert geographers ready to a man to swear any oath that the Moluccas really belonged to Spain, or to Portugal. Still it did not come to war between these countries, and after many impressive announcements of various



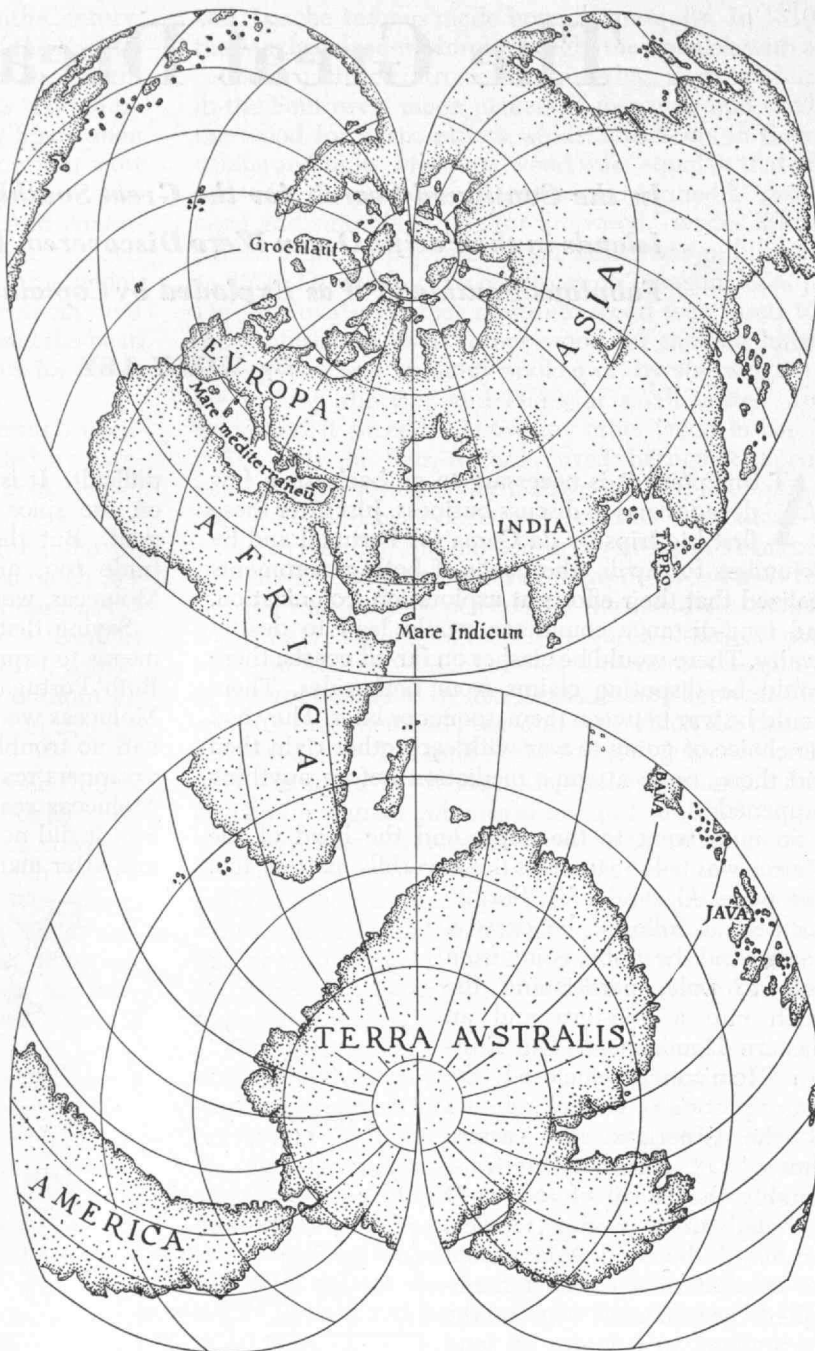
Adapted from Fite and Freeman's *A Book of Old Maps*. Western Hemisphere as reproduced in the globe of Johannes Schöner constructed in 1520. The Pacific and the Americas are considerably reduced in size and the Terra Incognita of other cartographers becomes the Brasilia Inferior of Schöner. The presence of the large mass of southland on Schöner's globe stimulated Sixteenth-Century explorers to search for the mythical rich land.

Map of the world prepared by Orontius Fineus in 1531 had, as a prominent feature, a huge continental area to which Fineus gave the name *Terra Australis*. This beautiful map by Oronce Fine, to use another form of his name, influenced Mercator in the preparation of his more detailed map of the world, produced seven years later.

kinds, the two rivals made an amicable agreement. On April 22, 1529, the Crown of Portugal paid to the Crown of Spain 350,000 gold pieces for a temporary settlement. The Moluccas were to be regarded as being west of the papal meridian, so that they belonged to Portugal alone. In case a later improved geography should establish that they would have belonged to Portugal anyway, the Spanish Crown was to return the sum — hence “temporary agreement” pending the improvement of the science of geography.

The Portuguese were happier with the settlement than the Spaniards. Their spice trade flourished. But a sum of money, even 350,000 gold pieces, does not last endlessly. The Spaniards felt that they had lost something and began to look for more unknown land. *Terra Australis*, so neatly pictured on Schöner's globe, was a big temptation. It should be found . . . and Captain de Retes' report about his New Guinea Coast found eager listeners. Besides, it was not just that one geographer, Schöner, who drew the *Terra Australis*: Oronce Fine (Orontius Fineus) had produced a most beautiful map with *Terra Australis* in 1531. In fact, he was the inventor of that name. Before him, the *Terra Australis* had been called “Continent of the Antipodes,” *Brasilia Inferior*, or, most of the time, simply *Terra Incognita*, “unknown land.” And Oronce Fine had influenced another cartographer, a Flemish gentleman by the name of Gerhard Kremer. Now “Kremer” means “merchant,” so naturally Gerhard Kremer, in due course of growing up, became known as Gerardus Mercator.

Mercator put Fine's *Terra Australis* on his map of the world of 1538 and, later, on his famous Chart of the World of 1569, the much admired masterpiece of map making for generations. It was the great authority which could not contain a mistake. If the great Gerardus Mercator showed *Terra Australis* on his chart, well, then, there was such a continent — and the inability of seamen to find it was simply plain inability on their part. And it is a wonderful map. Europe and Africa look just as they do on our maps. Asia is generally correct except that there are uncertainties about the coast line of the extreme northeast of Siberia; well, that was before Vitus Bering set out on his long trek across Russia and Siberia. Mercator guessed correctly at the existence of Bering Strait; it was one

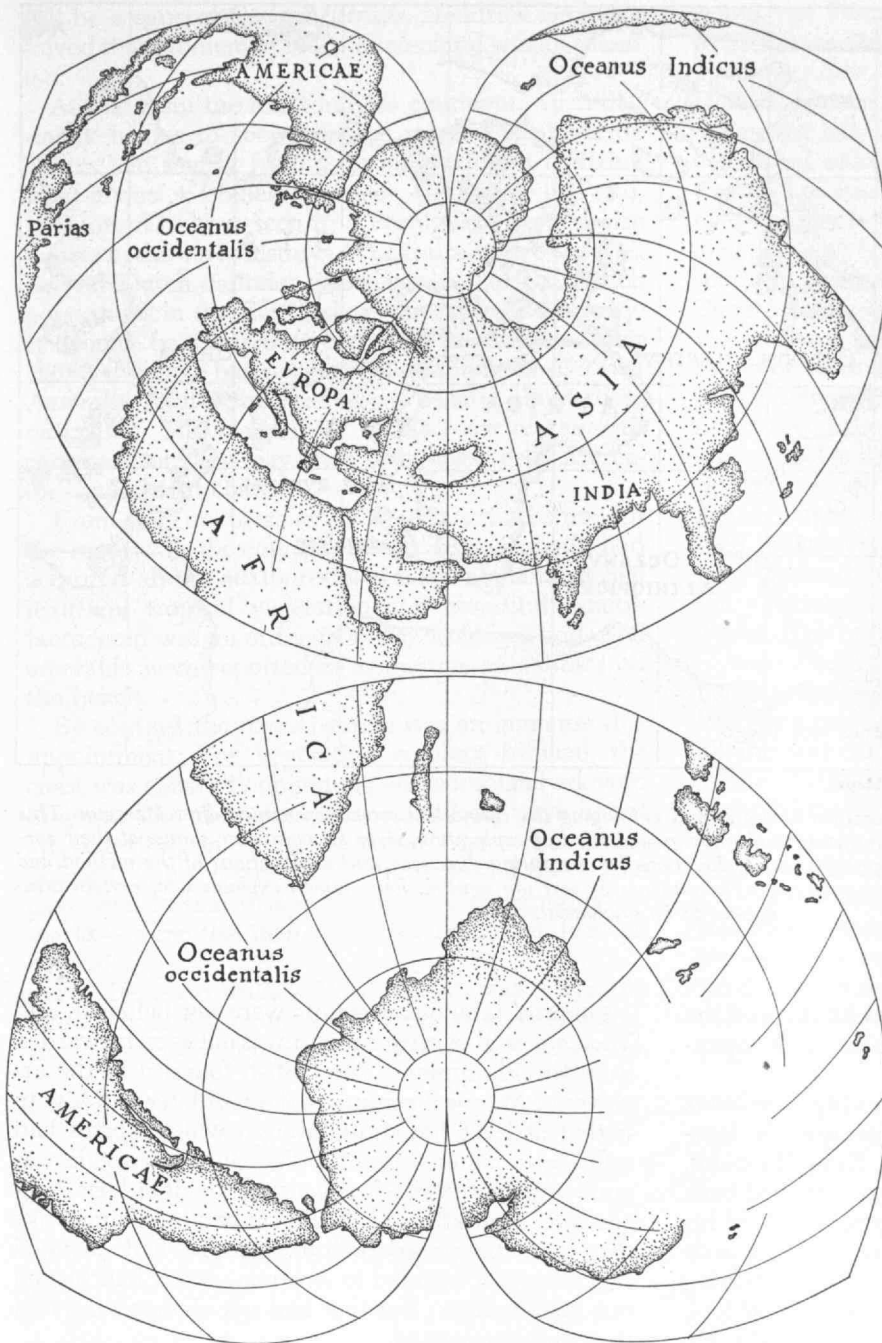


Adapted from Nordenskiöld's Facsimile Atlas

of the objectives of Bering's expedition to find out whether there was such a strait, or whether Siberia and Alaska were hanging together.

South America was drawn too wide in its southern parts, but the beautiful feature was *Terra Australis*. Tierra del Fuego was part of it. From there on, the coast line ran east at about the same degree of latitude, approaching Africa a bit more closely, then forming a big gulf just south of Ceylon to turn straight north immediately afterwards. *Terra Australis* almost touches Java, is separated by a narrow channel only from New Guinea, and then continues to join with Tierra del Fuego again.

The Mercator chart not only became standard in itself, but also influenced countless other maps of which the more famous ones are those of Tommaso Porcacchi, Joannes Myritius, Cornelis de Jonde, Ortelius, and Matthias Quadus. Quadus' map was dated 1608.



Adapted from Nordenskiöld's Facsimile Atlas

Although lacking the presumed geographical details of Terra Australis which appear on the Fineus map of the world, the famous map of the world by Gerardus Mercator, of 1538, portrays Europe, Africa, and Asia quite well (except for northeast Siberia) and does a very creditable job of the Americas. This map influenced the work of other important cartographers of the Sixteenth Century.

Alvaro de Mendaña had been sent to "discover certain islands and a continent" in the South Seas. He failed as far as the continent was concerned. He might have made good on his orders by finding Australia, but he discovered "certain islands": the Solomons. Mendaña hesitated for a generation's life span to colonize the islands he had discovered. At long last he set out to do so, in 1595, having one Pedro Fernandes de Queirós as his chief pilot. Mendaña died while the expedition was on its way, and Queirós succeeded him in command. The result was that the islands were not found at all.

Queirós returned to Peru and thence to Spain. That he had failed to find Ophir (the Solomons) was just a minor misfortune and did not matter much. After all, there was still *Terra Australis* to be discovered. He went to the pope and told him how many millions of souls waited to be saved on *Terra Australis*. He went to the king of Spain and besieged him with countless petitions stressing the riches of the unfound lands. Finally, the king was either convinced or weakened and in 1603 a royal cedula was issued send-

We return now from the strain of map making to the even more strenuous business of finding what the maps portrayed. As has been said, the Spaniards were especially interested after having sold the rights to the Moluccas. They were determined to find themselves more business elsewhere, and in 1567 the Viceroy of Peru sent General Mendaña with two ships to find *Terra Australis*.

Things had certainly changed since the time of the first exploratory trips from Portugal. Then *Terra Australis* was anticipated with some trepidation; if it existed it would block the way to East India, the goal of the journeys. Now *Terra Australis* was a goal in itself for colonization and commerce. The Spaniards were not only sure that it existed (Fine and the first Mercator map said so) but they also were certain that it was inhabited. Several priests were taken along to begin missionary work from the moment of landing.

ing Queirós on his way to *Terra Australis* with three ships. The second in command was a navigator by the name of Luis Vaez de Torres.

After a journey which changed course about once a day for the purpose of avoiding real and imaginary storms, the expedition reached the New Hebrides (the name was given much later) and found a fair-sized island among them. It is often called Merena and is about as large as our smallest state. That, however, did not faze Señor Queirós. The *Terra Australis* was formally annexed to Spain, there was the laying of a cornerstone for a city of New Jerusalem, and the formal christening of a middle-sized rivulet as New Jordan. Three solemn masses were said, and Señor Queirós added a toast to the king. The island was christened *Austrialia del Espíritu Santo* — "Southern Land of the Holy Spirit." It is more than likely that there was even some punning in the name, taking advantage of the



Adapted from Fite and Freeman's *A Book of Old Maps*

Nautical chart of the world, of 1569, by Gerardus Mercator and employing the cylindrical projection named after Mercator. This type of projection found wide favor with navigators during the great period of exploration, since all points are shown at their correct compass courses from one another. Copyright notice, directions for measuring distances, and explanations of the method and purpose of the map cover portions of the original map. These pieces of text are omitted here, which explains why certain areas appear to be uncharted.

similarity between the words *Australis* (south) and the name of "Austria" which was then a fief of the Spanish king and emperor.

All this was followed by the interesting anticlimax that Señor Queirós decided to go home quickly, leaving Torres with two ships in the New Hebrides. Queirós presumably thought that everything had been accomplished save for the proper presentation of his feat, and he was the man to take care of that aspect. He sat down and wrote and wrote and wrote. During the period from 1607 to 1610 alone, he sent 50 long memorials and petitions to the Crown of Spain. He "was convinced" that *Espíritu Santo* was larger than all Europe, richer than Peru at the time of its discovery, more thickly populated than Cuba, and over its plains roamed enormous herds of wild cattle. That there are no native cattle in the whole Pacific region did not disturb him; but nobody believed him anyway.

Australia, the real Australia, was then still unknown, but it was seen very soon after for the first time just because of Queirós. His second in command, Torres, who should have been the expedition's leader, had waited for two weeks for the reappearance of Queirós' ship that had vanished in the dark of a stormy night. Then he decided to depart and report at the nearest Spanish stronghold, the Philippines. Doing that he sailed through a then unknown strait (it now bears his name) passing along the still unknown southern coast of New Guinea. To his left he saw what looked like distant islands; they were the mountains of Cape York, the northern tip of Australia.

Queirós' fabulous accounts were not believed, and Torres' straightforward report was not even forwarded from the Philippines. The British found it in the archives of Manila a century and a half later and saw to it that at least the strait through which Torres had sailed was named after him. The Queirós episode was annoying for everybody concerned, but it did not damage the reputation of *Terra Australis*. Things like that had happened before. People had claimed that they had traveled to America, and it had turned out to be a hoax. But that had not changed the fact that America existed.

However, the story of *Terra Australis* was then taken out of Spanish hands and passed on to another nation: the Dutch. The first connection of the Dutch with *Terra Australis* was damaging to the great Southland. One of the main reasons why it had been put on the map had been Magellan's statement that he had seen land to his left when passing south of South America: Tierra del Fuego. In 1616 Willem Corneliszoon Schouten and Jaakob Le Maire sailed around Tierra del Fuego in the south, discovering Cape Hoorn.* Schouten then knew that this was just a group of islands. He was uncertain about only one of them, the easternmost, called Staatenland. Staatenland's insular nature had not been definitely established. It might

* This is the spelling which should be used. The Cape was named after one of Le Maire's ships which in turn was named after the Dutch city of Hoorn. It became known later that Francis Drake had perfect knowledge of the insular nature of Tierra del Fuego some 38 years before Schouten and Le Maire.

still be a cape of *Terra Australis*. Hendrick Brouwer solved that problem in 1643; Staatenland was an island too.

At this point the real southern continent, Australia, slowly begins to seep into the story. Luis Vaez de Torres had seen it from a distance without realizing what it was. A French navigator, Guillaume le Testu, is reported to have seen it; a Portuguese captain also figures in the early history of Australia, and, of course, several Dutch captains, who, because of the Dutch possessions in the East Indies were, after all, nearby. It would be comparatively easy to evaluate their claims if people had not been biased in favor of *Terra Australis*. As it is, one can never be sure about these narratives. They may refer to the coast of the fifth continent, or they may have been colored by Mercator's wonderful chart.

From 1600 on, there exists a curious touchstone for the reports. In the course of time, *Terra Australis* had acquired all the attributes of a fairy-tale land; it had luxuriant tropical vegetation and beautiful inhabitants, gold was an ordinary metal, and diamonds and emeralds were reported as numerous as pebbles on the beach.

By contrast the real Australia was an immense disappointment. The vegetation was not tropical, the coast was generally uninviting and completely devoid of gems. The aborigines, if encountered, were not at all beautiful; in short, all those who were disappointed with the coast they attained — all those who gave vent to that disappointment by disparaging remarks — were the men who had really set foot on Australia.

By 1642 Australia's West Coast was generally known to the Dutch under the name of New Holland. In that year the governor of the Dutch East Indies,

Anton van Diemen, ordered Abel Janszoon Tasman to sail from Batavia and establish the truth about *Terra Australis*, especially with reference to the New Holland Coast.

Tasman left, sailing a course which was carefully calculated either to bring him to the coast of *Terra Australis* or else to lead around New Holland to whatever open seas there were on the other side. After a long journey he reached what was unmistakably a southern cape, a southern ending of a continent, like Cape Agulhas in Africa. Tasman thought that it was the southern end of what we now call Australia, and in honor of his governor he called it Van Diemen's Land. Actually, it was not even Australia proper anymore; it was the southern end of the large island now known, in his honor, as Tasmania.

Going on for another thousand miles he saw land again, looking with amazement at the snow-covered high mountains of the "Alps" of the South Island of New Zealand. Then he turned north, sailed through the Tasman Sea between Australia and New Zealand, and returned to the Dutch Indies.

Australia had been rounded, but even Tasman did not dare to delete *Terra Australis* from the map. He had seen land with high mountains; it might stretch all the way to Staatenland near Tierra del Fuego. While Tasman was writing this, Brouwer sailed around Staatenland, but it did not matter because what Tasman himself had seen was certainly more than a small island.

During the first decades of the Eighteenth Century scientific reasoning began to follow another path. Slowly it became clear that *Terra Australis*, if it existed at all, was an Antarctic Continent. All the coasts still unidentified as islands, all the coasts still under suspicion of being outposts of *Terra Australis*, had ac-



Adapted from Nordenskiöld's Facsimile Atlas

Based on Mercator's projection, this map of 1608 was produced in Köln (Cologne) by Matthias Quadus. The map is inferior to that by Mercator 39 years earlier in not containing longitude and latitude lines. Mercator's map of 1569 placed the zero longitude about 20 degrees east of Greenwich, now reckoned as the reference longitude.

quired the same characteristic: these coasts were no longer under the green cover of tropical vegetation in warm waters, blending with the sky and the sea and distance, they all shone clearly and brightly with the reflection of snow on high mountains.

A report from a French vessel under the command of Lozier Bouvet enhanced that impression. Being some 800 miles south of Cape Town and a little west of it, Bouvet had found a coast from which a huge glacier seemed to flow into the sea. The weather had been bad, the visibility poor, and Bouvet had not been able to see much, but he was certain that it was not an iceberg but land, and he called it *Cap de la Circoncision*. The term "cape" was used, of course, with reference to *Terra Australis*. It had always been suspected that there was much open sea between Africa and the Southland. Bouvet had now determined just how much open sea: over 800 miles.

The extremely bad weather conditions in that zone — dense fog or rain almost all year round — rendered Bouvet's "cape" a major puzzle of geographical science for the whole interval between 1739, the year of discovery, and 1899 when it was finally found by the oceanographic-survey steamer *Valdivia*. Long before that, it had become clear that Bouvet had not discovered a cape of a continent; the question was merely whether there actually was a small island somewhere down there, or whether he had been fooled by a large iceberg in spite of his assertion. It turned out to be a small island, which was actually just one large extinct volcano, completely glaciated. It can now be found as Bouvet Island on any map; politically, it is Norway's.

Before Lozier Bouvet's report had even arrived in his homeland, the most versatile and generally greatest French naturalist of that period, Count Georges Louis Leclerc de Buffon, had formed a new opinion of *Terra Australis*. What he said seems to have been just an expression of the general feeling at that time.

Terra Australis was still not abandoned, but Buffon did not doubt that this large continent was in the main an Antarctic Continent. Not completely so, but the bulk had to be sought beyond the Antarctic Circle. It was, Buffon wrote, a sixth continent, not directly connected with any one of the known five. It might still be the largest — as big as Asia, Africa, and Europe taken together. That the Antarctic should be colder than the Arctic, Buffon continued, was merely a wrong conclusion, formed because of the observed and presumably correct fact that Antarctic icebergs were larger than those of the Arctic, and that they, therefore, could drift farther toward the equator before melting.

But these large icebergs meant something different to Buffon. They indicated enormous rivers which could exist only on a large continent. They also indicated long chains of high mountains where the moisture to feed those rivers could condense.

One more thing could be suspected from that evidence. Look at South America. It had been reached from the Atlantic, and consequently the low-lying sections had become known first. They were inhabited by primitive races with no culture and no capacity for abstract thought, no organization, and poor technology. But when the white race penetrated to the highlands, Peru, they found a highly developed sys-

tem of political rule, a well-developed religion, high culture, and comparatively high technology.

The aborigines of Australia could be compared to the natives of the South American lowlands. What would be more logical than to assume that *Terra Australis*, with its high mountains, had developed a similar high culture like the highlands of South America? It was a fascinating idea, and it is almost regrettable that Buffon had guessed wrong. His ideas were the last attempt to maintain something of the magic of *Terra Australis* which had lasted throughout so many centuries of the past.

While the book containing this last important Southland philosophy was still avidly read in France, an English shipmaster, who had worked his way up from common seaman in the British Navy, was surveying the coasts of Newfoundland and Labrador. His splendid work attracted favorable attention, and when it became necessary to send a ship to the South Seas, he was selected to be its captain.

The name of the vessel was *Endeavour*, and the name of the captain was Cook, James Cook. Admiring contemporaries, and even more so the later generations so much regarded him as the epitome of the great sailor, that his first name can be found only in encyclopedias nowadays. He was not James Cook, a captain in the British Navy, he was Captain Cook.

Captain Cook first sailed to Tahiti since the primary objective of the trip was the observation of a Venus transit across the disk of the sun, and Tahiti was the place to do it. That accomplished, Cook set out to solve the problem of *Terra Australis*, and the point where he began was that mountainous coast east of Australia which Tasman had seen. It was the only definite thing anybody knew about Southland. Cook began there. On October 6, 1769, land was sighted. If it was the same that Tasman had seen, it would have to be a long northern promontory of *Terra Australis*, because Cook was approaching from the other side. The thing to do was to try and sail around it; that would solve the question of whether it was a promontory or an island. A few months later the land had been rounded; it was the North Island of New Zealand.

There was another land south of that large island. Was it a promontory or another island? By the end of March, 1770, that question had been disposed of too; the land first seen by Tasman was the South Island of New Zealand, and south of the South Island there was nothing but open sea — the same thing that Tasman had had to report about his Van Diemen's Land.

Captain Cook then returned through the Torres Strait, clearing up that old semimystery which had been a leftover from the Queirós expedition to Land of the Holy Spirit and went home. But now although, or rather because of the fact that he himself had destroyed the last reliable looking evidence for *Terra Australis*, he was really interested in the problem. The year 1772 found him on the high seas again; this time with two vessels, the *Adventure* and the *Resolution*, and for the avowed purpose of either finding or destroying the old *Terra Australis*. In the process of this journey he discovered New Caledonia, but that was after his first stab at *Terra Australis* had failed. He had one more spot on his map where the great South-

(Concluded on page 374)

THE INSTITUTE GAZETTE

PREPARED IN COLLABORATION WITH THE TECHNOLOGY NEWS SERVICE

Industrial Management Dean

EDWARD PENNELL BROOKS, '17, Vice-president and Director of Sears, Roebuck and Company, has been chosen to head the new School of Industrial Management at the Institute. The appointment of the Chicago industrial executive as dean of the school, which is to be established with the \$5,250,000 gift of the Alfred P. Sloan Foundation, Inc., was announced by James R. Killian, Jr., '26, President of M.I.T., to members of the M.I.T. Club of Chicago at its annual meeting on April 5. Mr. Brooks goes to his post in September, and the school, which is expected to give a new dimension to management as an academic field, will open by the fall of 1952.

The appointment followed an intensive study of the qualifications of a number of leading industrial executives. The choice of Mr. Brooks to head the new school, Dr. Killian said, was based on his comprehensive industrial experience and his knowledge of the engineering implications of management.

In announcing Mr. Brooks's appointment, Dr. Killian outlined plans for the school which have been under consideration for some time:

The program represents, we believe, the most advanced concept of education and research on the problems of administration in technical industry. Our objective is to capitalize on the broad resources of science and engineering at M.I.T. by correlating them with the complex problems of industrial administration. If this is well done, we can hope to contribute in the most effective way, through instruction and research, to a broader status and higher scientific level of industrial management. This program calls for recognition that modern management has achieved the status of a science, and it calls for imagination and bold exploration based on the highest professional standards of teaching and research.

In Mr. Brooks we have found a happy combination of those qualities which we believe to be so important for organizing and administering the school. He not only has a thorough knowledge of modern industrial management and manufacturing procedures, but what is equally important, a basic understanding of the relationships of human beings within an organization, as well as the relationships and mutual obligations of business and society.

Mr. Brooks is the son of Bertha P. and the late Harry D. Brooks. He was born in Westbrook, Maine, on July 11, 1895, from a family whose ancestors had lived in Maine for many generations as manufacturers, farmers, and merchants. After graduating from the Westbrook High School he entered M.I.T. and was graduated in the Class of 1917. He served in World War I as a first lieutenant in the First Engineers of the First Division, American Expeditionary Force, 1917 to 1919, and was awarded the Distinguished Service Cross. Following his war service he studied at the Sorbonne in Paris and, upon his return to this country, took advanced work at the New School for Social Research in New York. In World War II, he organized

and was chairman of the Committee on Equipment and Materials on the Research and Development Board of the United States Military Establishment. He also served as vice-deputy in charge of the War Production Board Mission which visited China in 1945. He has been awarded the Medal of Freedom as well as the Chinese Victory Medal.

Mr. Brooks's early business experience was gained with the American Cotton Oil Company, the Barrett Company, and Montgomery Ward Company. With the exception of the year 1933-1934, when he was assistant to the vice-president of the United States Steel Corporation, Mr. Brooks has been associated with Sears, Roebuck and Company since 1927. During those years he served as retail merchandise manager, district manager, supervisor of the merchandise department, general factory manager, and he has been vice-president in charge of factories since 1939. He was elected a director of the company in 1941. In addition, he is a director of the Erie Railroad Company, the Chicago Corporation, the Florence Stove Company, the Seeger Refrigerator Company, Globe Union, Inc., Birtman Electric Company, and the Whirlpool Corporation.



Fabian Bachrach

Edward Pennell Brooks, '17,

Vice-president and Director of Sears, Roebuck and Company, Chicago, who has been appointed dean of the new School of Industrial Management to be established at M.I.T.

Mr. Brooks served as a term member of the Corporation of the Institute from 1940-1945. He has also served as a director of the Chicago Community Fund since 1941, and as a director of the Chicago Chapter of the American Red Cross since 1942.

The curriculum of the school will emphasize industrial management, including not only the technical aspects of business problems, but the broad field of human relationships. The program will embrace both undergraduate and graduate instruction, with an active research program co-ordinated with the curriculum. Problems of industrial management, as distinct from finance and other types of business activity, will be stressed.

Referring to Course XV, Dr. Killian said: "Our Department of Business and Engineering Administration and its flourishing courses will, of course, become an important part of the new program, and its activities will be extended in scope with a view to developing a self-contained unit concentrating on the specific problems of industrial management."

Draper to Head Course XVI

THE appointment of Professor Charles S. Draper, '26, as Head of the Department of Aeronautical Engineering at M.I.T., was announced by President Killian on April 3. Dr. Draper, whose appointment becomes effective on July 1, will succeed Professor Jerome C. Hunsaker, '12, who in 1914 founded at M.I.T. the first professional Course in Aeronautical Engineering in this country. He has been its head for many years and is internationally known as a pioneer



Fabian Bachrach

Professor Charles S. Draper, '26,
who has been appointed head of the Department of Aeronautical Engineering at M.I.T.

in aeronautical-engineering education. Dr. Hunsaker, who asked to be relieved of administrative responsibility for the Department, will continue as a professor until his retirement next year.

Dr. Draper, Professor of Aeronautical Engineering, has been deputy head of the Department as well as director of the Instrumentation Laboratory, which he will continue to administer for the time being.

The Department of Aeronautical Engineering at M.I.T. grew from the graduate course established by Dr. Hunsaker, who was graduated from the United States Naval Academy in 1908 and also holds the degrees of master of science and doctor of science from M.I.T. Dr. Hunsaker spent the summer of 1913 in England on the staff of the wind-tunnel research group of the National Physical Laboratory at Teddington, and from there he went to Paris to assist Gustave Eiffel in wind-tunnel studies of model airplanes.

Upon his return to this country in 1914, he was granted leave from the Navy to come to M.I.T. to establish the Course in Aeronautical Engineering. In 1916 Dr. Hunsaker was recalled to duty in the Navy. The new course, by that time well established, continued to grow through the years. In 1933 Dr. Hunsaker returned to the Institute to become head of the Department of Aeronautical Engineering, and he also served for a time as head of the Mechanical Engineering Department.

Dr. Draper is a member of the Scientific Advisory Board of the Air Force and a panel member of the Research and Development Board of the National Military Establishment. Over the past 22 years he has made notable contributions in teaching and research at the Institute. He has had wide experience in the fields of aeronautical power plants, flight testing, vibration measurements, aeronautical instruments, and control engineering, with special attention to applications of gyroscopic principles for military and commercial equipment. During the past 10 years, his research has been principally concerned with anti-aircraft fire control for the United States Navy and airborne fire control equipment for the Air Force. At the present time, developments made under Professor Draper's supervision are in wide use by both the Air Force and the Navy.

Dr. Draper is responsible for an extended curriculum of courses in the fields of instrument engineering and fire control. These courses include not only regular instruction by the Instrument Section of the Aeronautical Engineering Department but also classified work leading to degrees for Navy and Air Force officers in armament and fire control.

Dr. Draper was born in Windsor, Mo., on October 2, 1901. He is the son of Dr. and Mrs. Charles A. Draper, and started his education in the primary and high schools of Windsor. His college work began in arts and sciences at the University of Missouri in 1917. In 1919 he entered Stanford University and was graduated in June, 1922, with the bachelor of arts degree in psychology. He entered M.I.T. in the fall of 1922 and has been continuously associated with the Institute since that time. He has three degrees from the Institute. They are bachelor of science in Electrochemical Engineering awarded in 1926, master of science in 1928, and doctor of science in physics in 1938.

Dr. Draper has written numerous articles in the fields of instrumentation and control, and has served as consulting engineer to many aeronautical companies and instrument manufacturers.

He is a fellow of the American Physical Society, the Institute of Aeronautical Sciences, and the American Academy of Arts and Sciences. He is a member of the American Institute of Consulting Engineers, and the American Society of Mechanical Engineers, Society of Automotive Engineers, Army Ordnance Association, Sigma Xi, Tau Beta Pi, American Association for the Advancement of Science, American Society for Engineering Education, and the New York Academy of Sciences. His fraternity is Sigma Alpha Epsilon.

In 1946 Dr. Draper received the Medal for Merit and the Naval Ordnance Development Award for his work in the field of antiaircraft fire control. Also in 1946 he was given the Sylvanus Albert Reed Award of the Institute of the Aeronautical Sciences for "Application of the Gyroscope to Computing Devices for Gunnery and to Other Computing Devices." In 1947 the Engineering Societies of New England granted him the New England Award for outstanding contributions to engineering.

Menninger Gives Memorial Lecture

GENERAL Secretary of the Menninger Foundation of Topeka, Kansas, and internationally known psychiatrist, Dr. William C. Menninger will deliver the fifth annual Arthur Dehon Little Memorial Lecture at the Institute on May 1. For this distinguished lecture, Dr. Menninger will speak on "Social Change and Scientific Progress."

During World War II, Dr. Menninger was a neuropsychiatric consultant and became director of the Consultants' Division in his field of medicine in the Surgeon General's Office, with the rank of brigadier general. It was during this period of his service with the Army that Dr. Menninger began to exert the kind of progressive and enlightened leadership which has brought him national and international prominence.

President of the American Psychiatric Association in 1948-1949, Dr. Menninger has been one of the leading exponents of the idea that psychiatry should come out of the hospital and contribute whatever it can to the general well-being of mankind.

Nuclear Engineering Strengthened

THE appointment of Manson Benedict, '32, as professor of chemical engineering at M.I.T. was announced the latter part of March by Thomas K. Sherwood, '24, Dean of Engineering at the Institute. Dr. Benedict, who comes to M.I.T. to expand and strengthen the educational program in nuclear engineering, will join the staff on July 1. In proclaiming Dr. Benedict's appointment, Dean Sherwood said:

During the past several years the Institute has expanded and strengthened its research and educational programs in nuclear engineering and related fields. Basic research in nuclear science is now a very large program, and the engineering studies being carried on for the Atomic Energy Commission include important work in heat transfer, metallurgy, mineral engineering, water treatment, blast-resistant buildings, and radiation shielding.

Undergraduate and graduate subjects of instruction are offered in these and related engineering fields, and the M.I.T. Engineering Practice School at Oak Ridge, Tenn., offers the graduate student a unique engineering experience at the plants of the Atomic Energy Commission operated by Carbide and Carbon Chemicals Corporation at Oak Ridge. With the appointment of Dr. Benedict, the Institute plans to organize a formal program of education in nuclear engineering, initially at the graduate level.

Dr. Benedict received his bachelor's degree in chemistry from Cornell University in 1928, a master's degree from the Institute in 1932, and the degree of doctor of philosophy in physical chemistry from M.I.T. in 1935. From 1938 to 1942 he worked with the M. W. Kellogg Company and developed a widely used equation of state for hydrocarbon mixtures. From 1942 to 1946 he was associated with Kellogg Corporation and was in charge of the process design of the gaseous diffusion plant for the concentration of Uranium 235 which was built for the Manhattan Project at Oak Ridge.

Prior to his return to the Institute, Dr. Benedict was director of process development for Hydrocarbon Research Inc. He is a member of the Atomic Energy and Research Committees of the American Institute of Chemical Engineers; and a member of a visiting committee of Brookhaven National Laboratory.

Dr. Benedict is the author of numerous scientific papers on hydrocarbon thermodynamics, separation processes, and physicochemical measurements. He received the Walker Award of the American Institute of Chemical Engineers for his publications on extractive and azeotropic distillation.



Professor Manson Benedict, '32,
who becomes a member of the Department of Chemical Engineering at M.I.T. on July 1.

Alumni Day, 1951

TECHNOLOGY Alumni will return to Cambridge on Monday, June 11, for their annual Alumni Day activities on the M.I.T. campus. The morning will be given over to registration and to reunions scheduled by 13 Courses in various Departments of the Institute. Courses holding reunions are: Aeronautical Engineering, Architecture and Planning, Biology, Building Engineering and Construction, Business and Engineering Administration, Chemical Engineering, Civil and Sanitary Engineering, Electrical Engineering, Food Technology, General Engineering and General Science, Mechanical Engineering, Metallurgy, and Physics.

Opportunity will also be provided to visit Institute buildings; for example, the new Hydrodynamics Laboratory and Ship Model Towing Tank, on Vassar Street, will be open for inspection, as will be also the new 12-M.E.V. Van de Graaff generator. Visitors will be able to see progress in the construction of the new Sloan Metal Processing Laboratory, at the corner of Massachusetts Avenue and Vassar Street, and the John Thompson Dorrance Laboratory of Food Technology and Biology, now rapidly rising on the campus at the rear of Building 8.

Plans call for the customary buffet luncheon at 12:30 P.M. in the Great Court, to be followed by an address, "State of the Institute," to be delivered by President Killian. John A. Lunn, '17, President of the Alumni Association, will also speak. At 4:00 P.M. Alumni and guests will have opportunity to meet President and Mrs. Killian in a social hour at the President's House.

The evening will be devoted to the popular Stein-on-the-Table Banquet at the Copley Plaza in Boston, where Richard M. Bissell, Jr., Deputy Administrator of the Economic Co-operation Administration, and Professor of Economics at M.I.T., will be the speaker of the evening. Those attending the banquet will also receive one of the popular steins designed by Henry B. Kane, '24. A special program is being planned for the ladies.

FM Station for Boston Colleges

PLANs for a new frequency-modulated radio station for educational broadcasting that will bring the cultural resources of six Greater Boston colleges, as well as the full concerts of the Boston Symphony Orchestra, to millions of New Englanders, were announced on April 3 by Ralph Lowell, trustee of the Lowell Institute, and member of the M.I.T. Corporation. The Lowell Institute has applied to the Federal Communications Commission for a construction permit to erect a high-power noncommercial educational station with 20,000 watts effective radiated power to be operated in the frequency-modulated band.

Beginning with its 71st season next fall, the Boston Symphony Orchestra will join the six Greater Boston colleges and universities who are now members of the Lowell Institute Cooperative Broadcasting Council, to inaugurate the new station, which will feature "live" full-length concerts of the orchestra broadcast direct from Symphony Hall. Thus, the membership of the orchestra in the Council will make it possible to

add symphony music to the educational resources already provided by the co-operation of scholars and scientists at Boston College, Boston University, Harvard University, M.I.T., Northeastern University, and Tufts College.

Engineering plans for the new station have been prepared by representatives of M.I.T. and Harvard University. The station will be equipped with a three-kilowatt frequency-modulated transmitter presented by Professor Edwin H. Armstrong of Columbia University, renowned for his contributions to electronic circuitry including the vital new concept in radio broadcasting popularly known as "FM." The proposed new station would be managed by Parker Wheatley who has been director of the Lowell Institute Cooperative Broadcasting Council since it was organized in 1946. As a major, he was chief of the Radio Programs Section of the Armed Forces Radio Service during World War II.

Commenting on the proposed station, Mr. Lowell said: "I believe few other communities can match the educational resources we have in this region. We shall, nevertheless, plan to bring to listeners outstanding educational programs of colleges and universities elsewhere in the country from the transcription network of the National Association of Educational Broadcasters."

Mr. Lowell, who was recently elected president of the Boston Museum of Fine Arts, is president of the Boston Safe Deposit and Trust Company, formerly an overseer of Harvard University, a member of the Corporation of M.I.T. and of Northeastern University, and a trustee of Boston University. He also is a fellow of the American Academy of Arts and Sciences. He holds the honorary degrees of doctor of laws from Northeastern University and of doctor of humane letters from Tufts College.

From the Council

ROSCOE H. SMITH, '23, formerly President of the M.I.T. Association of Cleveland, was introduced as the guest of honor at the 281st meeting of the Alumni Council on March 26, at the Campus Room in the Graduate House. John A. Lunn, '17, President of the Alumni Association, presided at this interesting meeting, attended by 101 members of the Alumni Council, at which President Killian and Professor Bernard E. Proctor, '23, Acting Head of the Department of Food Technology, were the evening's speakers.

The business portion of the meeting was held to a minimum as Donald P. Severance, '38, Alumni Secretary, reported that the cost of the midwinter alumni meeting held on February 1 had been kept within the budgeted figure of \$700; in spite of rising costs, the prices for the luncheon and banquet tickets for Alumni Day would be the same as last year; and a budget of \$2,500 had been established for the operations of Alumni Day, 1951. Between February 24 and March 15, Raymond Stevens, '17, and H. E. Lobdell, '17, Executive Vice-president of the Alumni Association, visited five alumni clubs in Puerto Rico and the Midwest. Also reported was the vote of the Executive Committee to recognize the newly formed M.I.T.

(Continued on page 364)

BUSINESS IN MOTION

To our Colleagues in American Business ...

Never has industry turned out more goods than during the past few years of unprecedented customer demands. In endeavoring to meet these, Revere has developed new techniques, established new plants, installed the newest equipment and modernized the old, and stepped up its training program, including the development of some new ideas in relation to safety. Throughout the country, similar steps have been taken by manufacturers generally. This is the response of free enterprise to the stimulus of a free and growing market. It is fortunate that American industry was not only willing but able to do this, because now it is evident that these facilities and these skills must be devoted more and more to the defense of our freedom.

Defense Orders or "DO's" are being issued, and their volume is bound to increase. Already prime contractors are seeking sub-contractors, and sub-sub-contractors are receiving orders too, down to small local firms operating only a few machines. Perhaps few people realize the importance of the "small shop"; the fact is that these establishments have a tremendous total capacity supplementing that of the great corporations, which practically never make everything that is needed for a finished product such as a tank, a plane, a ship, radar equipment. The "smalls" are just as vital as the "big's."

Revere knows that when the time of trial comes, it is more important than ever to increase production efficiency. This makes complete information essential to those who have taken on DO contracts. Revere pledges its full cooperation, and will gladly provide all it knows about its metals.

This knowledge is made available in two principal ways. First, there are many booklets containing tech-

nical data, including physical properties, and also in many cases suggestions as to recommended fabrication practices. In addition to the booklets, which are distributed on request, Revere either reproduces or summarizes them in the various Sweet's. Files, Chemical Engineering Catalogue, Marine Catalogue, Refinery Catalogue. This printed material is therefore available freely to all who will ask for it, or look it up. The second way in which Revere's knowledge and skill is made available is through the Technical Advisory Service, a group of capable men whose collective experience covers practically all applications of copper and copper alloys, and aluminum alloys. In war and peace, these men have rendered invaluable service, collaborating closely on such matters as selection of the proper metal, temper, width, gauge, and in helping to solve production problems. As a result, scrap has been reduced, rejects lessened, production increased, money and materials saved. The services of the Technical Advisors are obtainable through the Revere Sales Staff which also has wide experi-

ence in the selection and application of Revere Metals. If you have orders whose specifications include non-ferrous metals, Revere will gladly place its information at your disposal.

If you purchase and work with other materials, Revere suggests that it should be realized that not only is American productive capacity tremendously greater, but that there has been a likewise large growth in knowledge about materials of all kinds. So it is recommended that no matter what you make now, or are called on to make in the future, you ask your suppliers to share their knowledge with you. It will make you and our country stronger.



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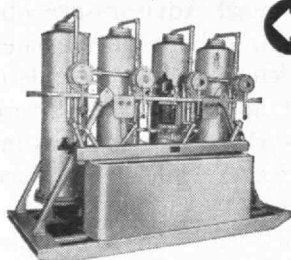
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**Eliminate
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Costs**

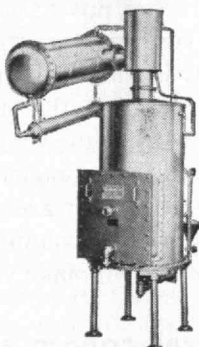
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THE INSTITUTE GAZETTE

(Continued from page 362)

Club of Belgium, whose organization meeting took place on January 13, 1951.

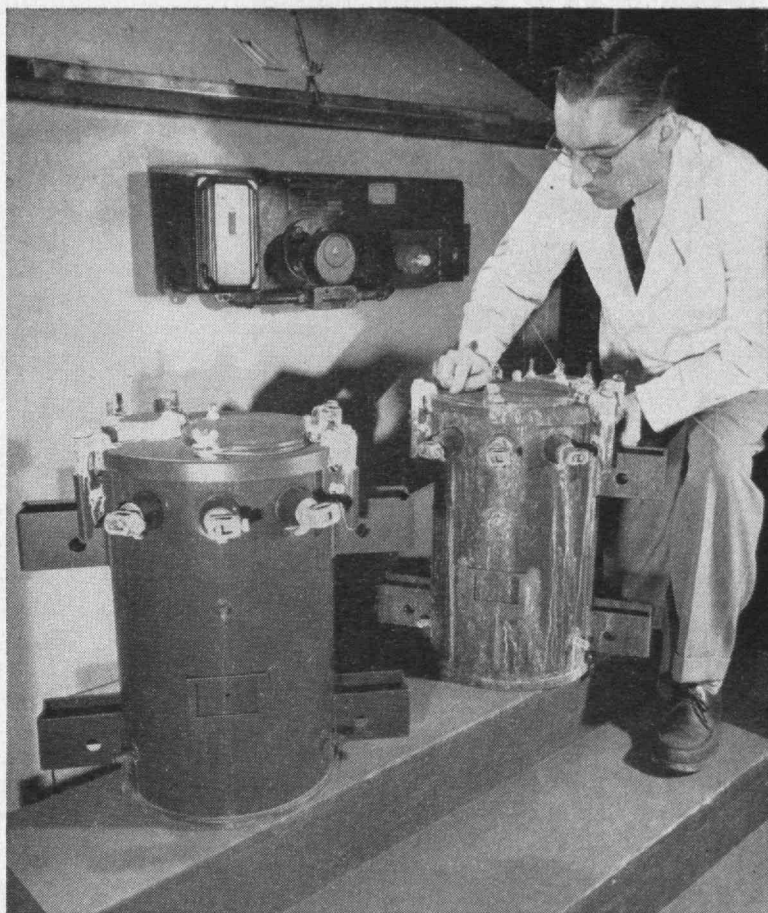
In commenting on recent activities of the M.I.T. Administration, President Killian outlined some of the background of the Institute's use of the estate at Round Hill, recalling early research on fog dispersal, aeronautics, and development of the high-voltage Van de Graaff generator which had been carried out with the interest and support of the late Colonel Edward H. R. Green. Almost three years ago, the Green estate near New Bedford, Mass., was permanently turned over to M.I.T. for research purposes, and President Killian announced that a recent bequest of the late Mrs. Matthew Astor Wilks would assure the maintenance and further expansion of this property which has numerous interesting potential possibilities for research and secluded study by members of the M.I.T. staff.

President Killian also recalled the high points of his experience of the past year as a member of the Communications Policy Board, to which he was appointed by President Truman. Charged with the "broader problem of developing a total national communication policy" the Board looked into such matters as allocation of frequencies for radio services; the dual responsibility of Congress and the Federal Communications Commission for the proper administration of nongovernmental radio communications, and of the President for the administration of governmental radio communication systems; the extent to which the government operates its own communication systems; the merging of cable communication systems; the peculiar problems raised by "record" and "voice" communication systems; and the desirability of establishing a temporary committee to anticipate this country's needs prior to international conferences or communications and frequency allocations.

Next introduced by President Lunn was Professor Proctor who spoke on applications of cathode rays in the food and pharmaceutical industries. Pointing out that electronics is opening new horizons for food and drug processing, he discussed the relative merits of sterilization by heat, x-rays, and cathode rays. Sterilization by cathode rays — electron beams — has the advantages of producing no appreciable temperature rise, of producing complete sterilization in a matter of a few seconds, and of lending itself to continuous processing methods. The possibility of using cathode rays for killing insect infestation, as grain is put into storage, promises to have important economic advantage. In applying cathode-ray sterilization, the flavor, or color of the product, may be altered in certain cases, and these problems are currently being investigated. Also under study is the depth of penetration for which sterilization by cathode rays is effective. Present indications are that generators of between 10,000,000 and 15,000,000 electron volts should be ample for sterilizing any or all types of canned goods ordinarily used in homes.

(Continued on page 366)

Scientists Solve Another Secret of Transformer Life-Span



Transformer failure is costly—far more than the cost of a new unit. So Westinghouse is constantly seeking ways to lengthen transformer life.

Of three major causes of transformer failure, two are well under control, namely, “burn-outs” resulting from “electrical overloads”, and “lightning strokes”. Now, a new painting system developed by Westinghouse engineers should go a long way toward solving the third problem—the problem of corrosion.

Transformers take a terrific beating from the weather. Boiling sun. Driving rain. Sleet. Snow. Salt-water spray along sea coasts. Acid and alkali exposure . . . all these conditions cut life expectancy sharply.

With the same determined effort that licked “electrical overload” and “lightning stroke” problems, Westinghouse scientists took up the fight against corrosion . . . came up with a three-deck “paint sandwich” that doubles transformer tank life—even where corrosion conditions are most severe.

Key to this improved finish is a middle layer of paint containing mica flakes in a syrup-like plastic

that forms a coating like a shingle roof. First, a special primer is applied that seals the steel from the air. Then the insulating, weather-resisting coat is applied. Over that, a pleasing finish that shuts out ultraviolet light completes the job.

The illustration of the transformer tank at the left shows the effectiveness of the new finish. After 1000 hours of continuous exposure to corrosive salt-water spray, it is still bright and shiny, while the tank at the right, coated with standard finish, fell victim to the salt-water attack. The new finish is expected to provide the same results when exposed under all climatic conditions including sub-zero cold, desert heat and harmful sun rays.

Problems like this are just as important in research at Westinghouse as those which probe the depths of uncharted areas, because our concept of research is not only confined to a quest for the new, but includes an everlasting interest in improving the old as well. Westinghouse Electric Corporation, Pittsburgh, Pennsylvania.

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THE INSTITUTE GAZETTE

(Continued from page 364)

Radiation Series Completed

THE Radiation Laboratory Series, 27 volumes containing the vast results of five years of intensive work on radar done at the Radiation Laboratory at M.I.T. during World War II, has been completed.

This monumental technical series was started in 1947 under the sponsorship of the United States Office of Scientific Research and Development, and was published by the McGraw-Hill Book Company under contract with the Institute.

This is one of the rare cases in which a program of research has produced a complete report, which in this instance consists of basic information on microwave radar and modern electronics.

Land for Fraternity Housing

INSTITUTE land should be made available by lease to fraternities if this can be done without interfering with the Institute's long-range plans for developing its housing and recreational facilities, the Corporation Committee on Fraternity Housing recommended in its recent report to the Corporation.

In making its study of housing facilities, the committee took into consideration the desirability of giving students an opportunity to live in close proximity to the Institute, and the policy of restricting the prop-

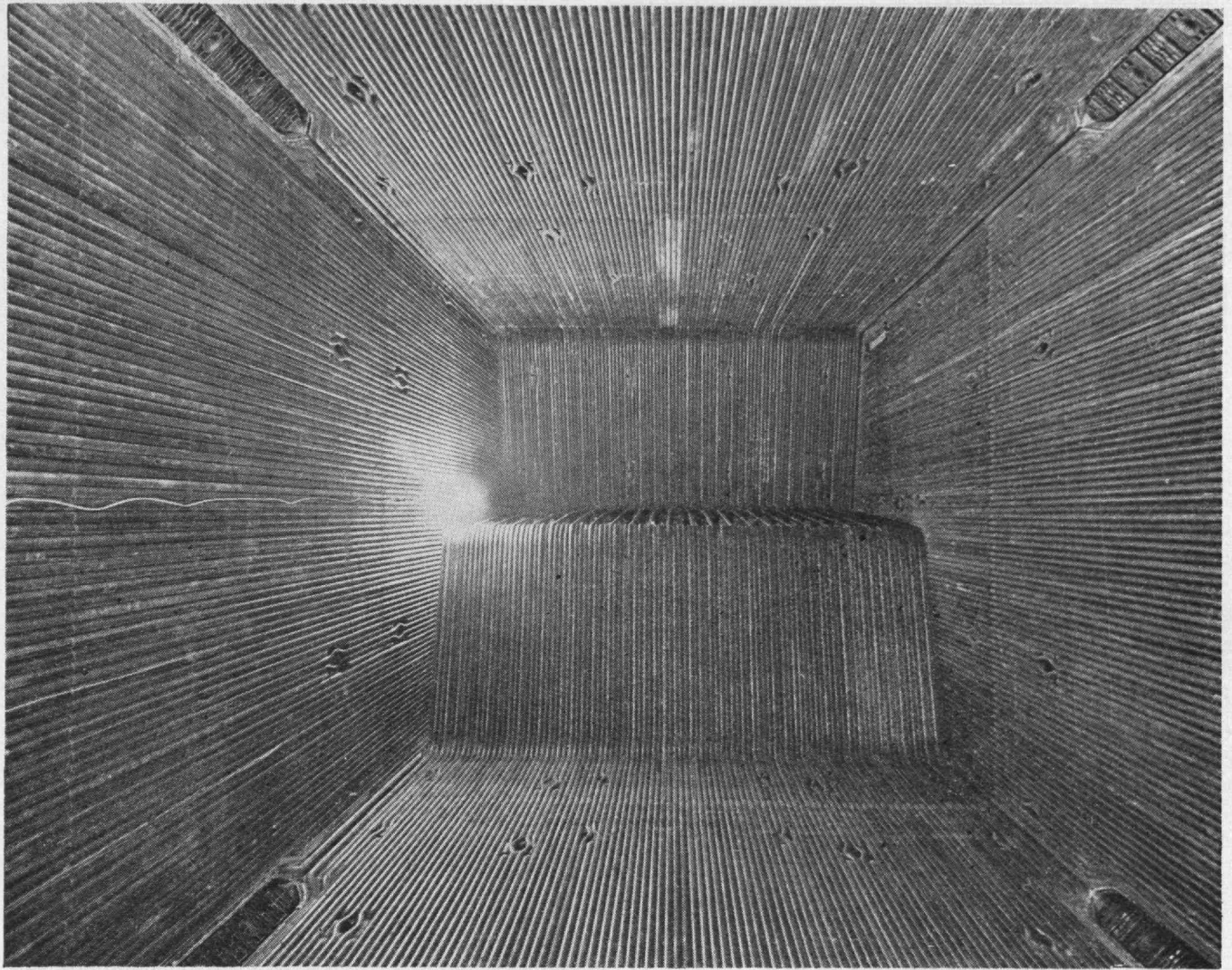
(Continued on page 368)

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You're looking up inside the furnace of a large power boiler, soon to be lighted off. Suppose you could stay . . . watch . . . and listen. You'd hear a roar as streams of fuel and air from the burners in the four corners rush together to form a whirling inferno. You'd see masses of flame, at temperatures as high as 3000 degrees F., spiraling upward toward the roof tubes six stories above. You'd learn, if you inquired, that a ton of coal, ground to flour fineness, was being consumed every two minutes.

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erty west of Massachusetts Avenue to student and faculty housing and recreation. In the event that all fraternities desiring land could not be accommodated, the committee suggested that the Institute consider the acquisition of additional land for lease to fraternities. It was recommended that this be done only if it is a sound investment for Institute funds.

The committee furthermore recommended certain basic requirements governing the utilization of land, as well as the type and size of the house. The report recommended that there be no development of a consolidated fraternity housing unit unless the fraternities themselves express a desire for such a building.

Title to any land leased to fraternities on a long-term basis should be retained by the Institute, the committee believes, with reasonable provisions for renewal, subletting, and for cancellation in the event a fraternity reduced its normal functions. In this event, there should be provisions for a fair payment to the fraternity for the house and improvements.

The Institute, the report said, should provide no financial assistance except in instances where such assistance would represent a sound investment for endowment funds.

Supervision of fraternities by the Institute, the report recommended, should be limited to financial supervision necessary for the protection of its investment, and architectural supervision to maintain designs consistent with the Institute's policy. This supervision should include actions which might be required to prevent impairment of the good name and reputation of the Institute, damage to its properties, or serious impairment of M.I.T.'s scholastic programs. Aside from this supervision the committee recommended that domination of fraternities should be avoided and that contacts between the Institute and the fraternities should be maintained to the maximum practical degree directly between the proper Institute authorities and the individual students.

Should the demand from fraternities for land exceed the amount of space available, the selection of the fraternities to participate should, the report recommended, depend upon the record of general con-

(Continued on page 370)

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**Constant Current
Regulators (Static Type)**

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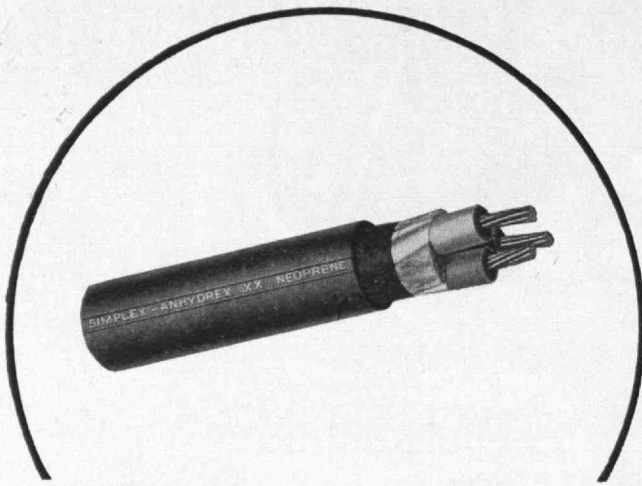
tories completed over 1200 military projects. They are again working on special defense assignments.

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SIMPLEX WIRE & CABLE COMPANY

79 Sidney Street, Cambridge 39, Mass.

THE INSTITUTE GAZETTE

(Continued from page 368)

tribution by the fraternity to the objectives of M.I.T., the soundness of the investment involved, as well as the need of each fraternity for a site on the Institute's campus. The latter problem could be considered on the basis of inaccessibility of present property, number of students involved, and inadequate quarters. The only land now available for such purposes is a plot on the east side of the Riverside Dormitory and another adjacent to the present Solar House.

The committee which made this study consisted of Donald F. Carpenter, '22, chairman; Francis J. Chertman, '05; Edward S. Farrow, '20; Joseph W. Powell; and Henry E. Worcester, '97.

Commencement Speaker

JUDGE Harold R. Medina of the United States District Court, Southern District of New York, will deliver the principal address at the 85th commencement exercises at M.I.T. on Friday, June 8, 1951. Judge Medina, who is well known for many legal reforms affecting court procedure, will speak to more than 1,000 graduates in Rockwell Cage at M.I.T.

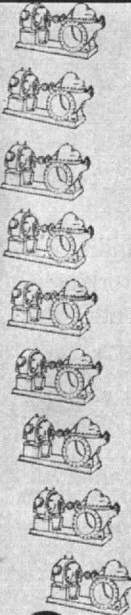
A member of the New York Bar Association, Judge Medina holds degrees from Princeton and Columbia Universities, and in 1947 was awarded the honorary LL.D. degree by St. John's College. He was admitted

(Concluded on page 372)



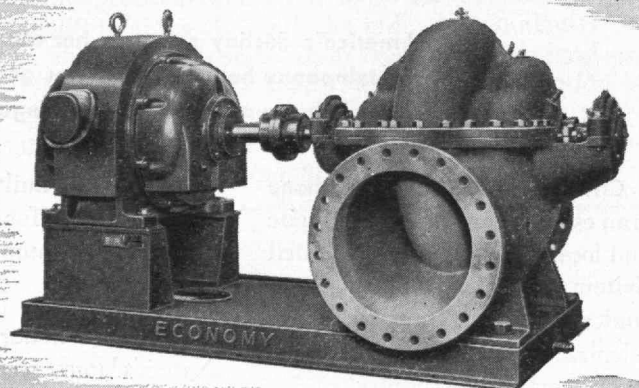
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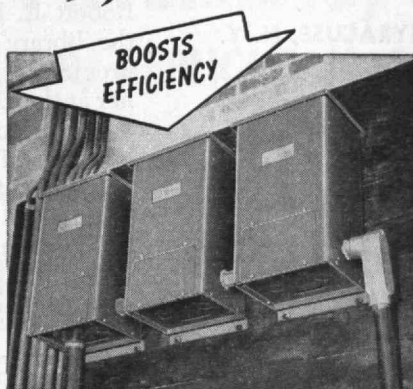
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THE INSTITUTE GAZETTE

(Concluded from page 370)

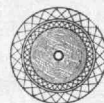
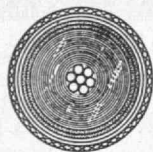
to the New York bar in 1912. Before his appointment as federal judge in 1947, he was active in the practice of law and a member of the faculty of Columbia University. Editor and author of numerous books and articles, Judge Medina is a member of many professional societies.

Librarians Meet

Host to approximately 150 librarians from colleges and universities throughout New England, M.I.T. welcomed the New England College Librarians on April 13 and 14 at their spring meeting which was held in the lounge of the Charles Hayden Memorial Library.

Plans for the two-day session were made by Vernon D. Tate, Director of Libraries at the Institute, and Robert E. Booth, Associate Librarian. Inspection of the library's facilities, informal talks, discussions, a program of folk music in the music library, and dinner at the Campus Room of the Graduate House were all a part of the program. Out-of-town guests were housed at Riverside, M.I.T.'s new dormitory.

Participating with Dr. Tate in the evening session on April 13 were Eugene B. Power, President of University Microfilms, and Fremont Rider, Librarian of Wesleyan University and chairman of National Microcard Committee.



TWO FLEXIBLE HIGH-TEMPERATURE COAXIAL CABLES FOR USE ON AIRCRAFT AND ELECTRONIC EQUIPMENT

These cables are high-temperature modifications of standard Type RG cables which will withstand continual change in temperatures without damage to the insulation.

The insulation consists of the use of teflon tape applied in a unique manner and sealed from moisture and air. The tradename for this product is "Teflex" for which patent has been received. The characteristics of the insulation are such that the cable will withstand temperatures as low as -80°F and up to 500°F for long periods of time with very little deterioration in dielectric breakdown, power factor, attenuation, change in capacity or corona forming voltage.

These cables have been adopted and approved by ASES as standard RG cables. The electrical and physical characteristics of these cables are as follows:

RG-115/U RG-8/U; 9/U; 9A/U COX-2FS-13-GV -65°C to $+250^{\circ}\text{C}$	ASESA NUMBER EQUIVALENT TO ASESA NUMBER BIW TYPE NUMBER TEMPERATURE RANGE	RG-124/U RG-59/U COX-3FS-026-GV -65°C to $+200^{\circ}\text{C}$
#13 stranded silver-plated copper "Teflex"; diameter .250" plus or minus .005"	CONDUCTOR INSULATION	#22 copperweld "Teflex"; diameter .135" plus or minus .005"
Double silver-plated copper diameter .300"	SHIELD	Single tinned copper diameter .180"
Double "Teflex" layer	MOISTURE SEAL	Single "Teflex" layer
Double fibreglass braid impregnated with silicone varnish .370" plus or minus .010"	OUTER COVER	Single heavy fibreglass braid impregnated with silicone varnish .240" plus or minus .008"
Blue tracer	OUTSIDE DIAMETER	Orange tracer
.14 lbs. per foot	BIW MARKER	.05 lbs. per ft.
50 plus or minus 2 ohms	NET WEIGHT	73 plus or minus 3 ohms
29 plus 2 mmf/ft.	IMPEDANCE	20 plus 1 mmf/ft.
8,000 volts R.M.S.	CAPACITANCE	2,300 volts R.M.S.
10,000 volts R.M.S.	MAXIMUM OPERATING VOLTAGE	7,000 volts R.M.S.
2.0 db per 100 ft.	CORONA VOLTAGE	3.8 db per 100 ft.
5.6	ATTENUATION 100 mc/s	10.
15.4	400 mc/s	29.
\$2.00	3000 mc/s	\$.75
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at Bromfield St.

THE GREAT DREAM

(Concluded from page 358)

land had actually been seen: Lozier Bouvet's *Cap de la Circoncision*, south-southwest of Cape Town.

Because of the almost permanent bad weather just in that region, he missed the tiny island which is actually there, but the negative result was very positive when looked at from another angle: there was no land. Bouvet had made a mistake of some kind. Captain Cook himself believed that an iceberg had been the "cape."

The thing to do next was to sail around the earth, as far south as weather conditions, or *Terra Australis*, would permit. Captain Cook circled the South Pole systematically — half the Circle roughly along the 55th degree of southern latitude, and the other half at about 60 degrees. He crossed the Antarctic Circle three times. Sometimes small islands were seen during this trip, but almost always icebergs (some of them of fantastic size) were sighted. Once a gigantic ice wall appeared, behind which there might or might not be land.

His ships were not built for polar exploration, but Captain Cook went as far south with them as could safely be done with ordinary ships. The result of his expedition was: the great southern continent does not exist! It was possible that there was a much smaller Antarctic Continent under perpetual snow and ice, but that Antarctic Continent would lie completely inside the Antarctic Circle.

A Dream Ends

Terra Australis, which had begun with Hipparchus in antiquity, was destroyed for all time during that year 1775 when Captain Cook's ships returned to England, and when the Captain himself drew the conclusions from his observations. It is said that Buffon, then an old man, cried when he was informed about the results of this expedition. He stated later that such a continent, which was still possible after Captain Cook's journey, would hardly be worth the trouble of exploration.

It was the end of a long and beautiful dream — the dream of a marvelous continent just outside of the explorer's reach. The dream persisted even though the coast of that continent receded and receded again, and did not end until it was definitely proved that the grain of truth in it was buried under many, many yards of ice and snow inside the Antarctic Circle.

William H. Coburn, '11

William F. Dean, '17

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Because I wanted a business of my own with no lid on earnings, I left a sales manager's job at the age of 40 to go into life insurance. But like anyone entering a new field, I wondered whether I could make the grade.

There are some who think I *did* make it*. In any event, many have asked me how best to get a good start in life insurance selling.

Most important, I'd say, is to choose a company that wants to be sure you *will* make the grade—that (1) screens applicants carefully, and (2) thoroughly fits a new man for a successful career.

These two factors (plus a plan that supports you while you are just learning) are leading many ambitious younger men to New England Mutual today. The company gives each man three separate screening tests before taking him on. Just being able to pass those tests gives you confidence.

My own education began immediately and continued for several years while I was working. It goes about like this. First comes basic training in your agency, combining theory and field work. After selling insurance for a few months, you qualify for the comprehensive Home Office course given in Boston, with all expenses paid by your general agent and the company.

Next you'll take up Coordinated Estates—the professional approach to selling and servicing life insurance. Then, as you are ready for it, comes Advanced Underwriting, which covers business uses of life insurance, and relates insurance to wills, trusts, and estate planning, and to taxation problems—income, estate and inherit-

ance. I jumped into this as soon as I could, and found it of tremendous help in dealing with business and personal cases involving substantial amounts of insurance.

Your final step, although I happened to take mine pretty early in the game, will be to study for your CLU designation, which is comparable to the CPA in accounting. You will profit from this study, as I have, and from the company's regular bulletins on new tax and estate laws suggesting valuable sales applications.

From experience I know a man can get ahead faster in a company with a sound training program. A thousand New England Mutual fieldmen from here to Honolulu will testify to this.

Finally, I know I've done better in life insurance than I might have in my former work. There are a great many other New England Mutual representatives who have done at least as well or a lot better than I've done. I'm glad to have the opportunity to tell the story for them.

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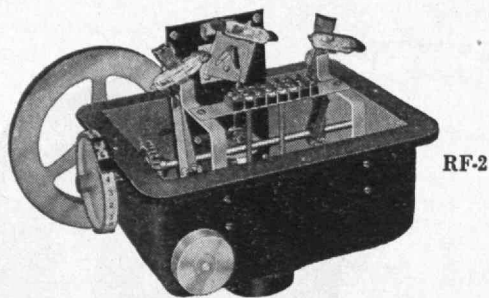
Raymond P. Miller, CLU, '18, Salem

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THE MESQUITE TREE

(Continued from page 352)

called the 'golden period' of the Southwestern stockman. . . . During this intermediate decade there were fewer head of stock, wild or domestic, than at any previous period. There were also abundant rains and the seasons were mild and favorable to the full development of grasses."

Thus the stockman entered a "pastoral paradise," where grass was often "as high as a cow's back," and he never dreamed that the area could be overgrazed by cattle and sheep. But soon after 1883, the era of free ranges ended, fences were being built, and the Texas and Pacific Railroad — which rapidly helped to develop the stock industry — ran across the range country. Soon the lands were overstocked; the grasses suffered, but the tenacious mesquite flourished, beginning its threat to the new industry.

Along with the annual burnings and overstocking, other factors worked hand in hand to encourage the spread of mesquite: droughts, hard winters, and floods. With its deeper root systems the mesquite could survive bitter winters and droughts; whereas the grasses of the overgrazed ranges were seriously damaged. Floods transported mesquite seed to treeless areas, sometimes providing seedbeds of silt for germination.

At the turn of the century old-timers in Texas could point to mesquite thickets and say that these did not exist in their childhood; meanwhile ranchmen were beginning to look upon the encroachment with misgiving. Even then, however, it was not generally thought that the supremacy of grass vegetation would be endangered. In fact, the increasing acreage of forest cover seemed a blessing; it would "mitigate intense heat and equalize temperatures." Earlier, as the *Texas Almanac* for 1870 will show, most people believed that western Texas would become "much more seasonable than in its past history. It will never again be visited by such a series of droughts as desolated it in such a degree from 1856 to 1861. Uniform observation shows that the climate of countries, as to rain, is affected by the presence or absence of timber."

In 1895 the University of Arizona Agriculture Experiment Station praised the mesquite for its beneficence to arid regions: "Observation has shown that forests lower the temperature of warm countries, lessen extremes of temperatures, diminish the loss of

(Concluded on page 378)

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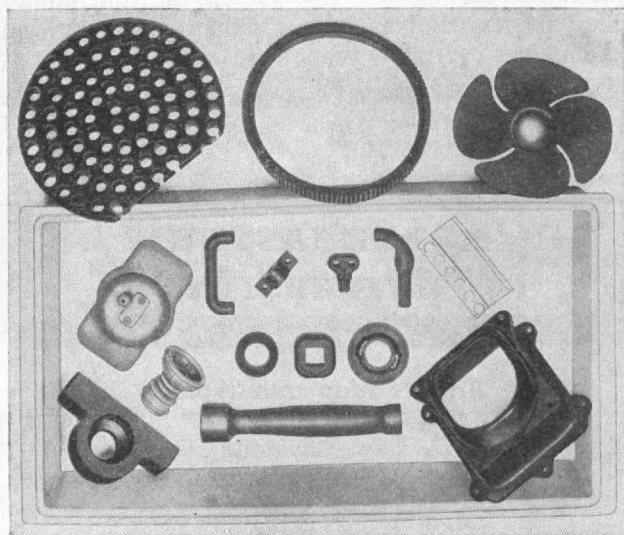
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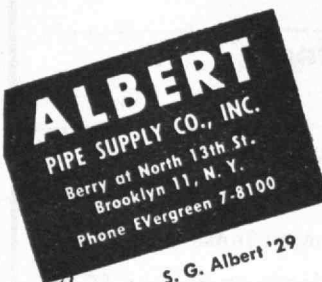
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The Technology Store

THE MESQUITE TREE

(Concluded from page 376)

water by evaporation, increase rainfall. . . ." Mesquite forests in Arizona were "too valuable for their products and their influence upon climate, to be carelessly destroyed."

Today range experts are searching for simple and economical methods of controlling and eradicating the tree that was once manna to a semiarid environment. The mesquite is now said to infest more than 70,000,000 acres of grazing land in the Southwest. It has been estimated that the cost of this mesquite invasion to Texas ranchers is over \$30,000,000 annually.

Since 1936 experiments and tests for control have been made with water-soluble chemicals, oils, mechanical devices, and power machinery. Mesquite sprouts are killed with sodium arsenite and ammonium sulfamate sprays, while other chemical mixtures are being tested. When applied to root crowns, kerosene and Diesel and motor oils have been effective. Methods using mechanical clearing include bulldozers, power saws, and root-cutting devices.

The mesquite possesses a growth habit which makes control difficult and which probably accounts for the tree's ability to establish itself over such a wide area. Several inches beneath the soil, the mesquite's underground stem bears small wart-like structures known as buds or eyelets. These dormant buds, normally present on the cambium, regenerate sprouts when the top wood is killed. Closely connected with this growth characteristic is an appropriate legend mentioned by Frederick B. Page⁵ in *Prairiedom* (published in 1845). "There is a legend that, as Aristonue was changed by the gods into myrtle after his death, so the Mexicans are turned into *muskeet trees*, and so far from fading, they possess the marvellous property of renewing themselves every few years."

⁵ *Prairiedom: Rambles and Scrambles in Texas or New Estremadura*, [A. Suthron] page 129 (New York: Paine and Burgess, 1845).

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In 1949-50 nearly one million meals were served to staff and students and 57 dances, receptions and balls were held in Morss Hall. Morss Hall seats approximately 500 people. Thus, each chair served 2,000 people per year or 5.5 persons per day. We thank the Alumni for making these services possible.

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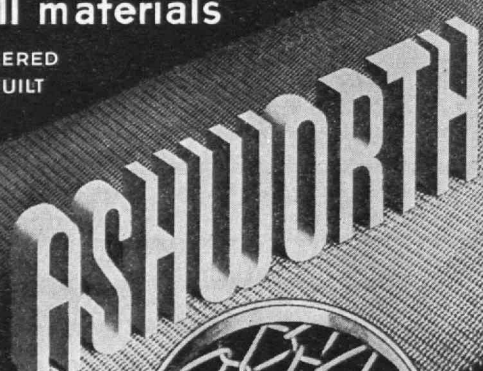
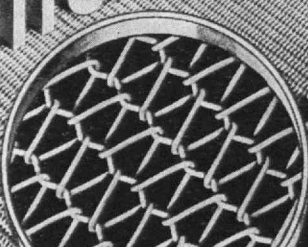
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THE TREND OF AFFAIRS

(Continued from page 344)

interact with the motion in such a manner as to feed energy from the air stream into the vibrations of the structure. When such energy feedback develops, the amplitude of oscillation tends to build up to destruction. Because of the catastrophic nature of the flutter phenomenon, direct flight testing for the flutter speed has been avoided in the past, since it has been commonly assumed that the flight speed must be brought too near the dangerous flutter speed to obtain the required test data. Work done on small-scale elastic wind tunnel models indicates that this danger is no longer a requirement for testing.

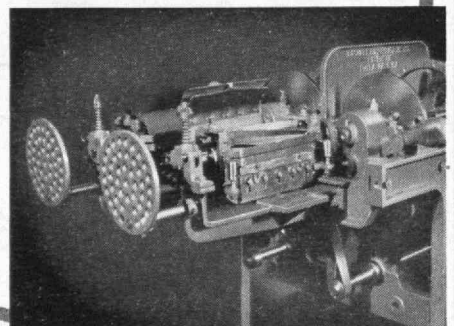
A technique has been developed in the laboratory whereby response data, gathered at several speeds in the range below the onset of flutter, can be used in an extrapolation to determine the flutter speed. The technique involves the use of a small gun mounted on the wing tip. The reaction of the gun upon firing excites the wing, whose response is measured and recorded at several speeds safely below the flutter speed. When correlated with trends predicted by concurrently developed theory, the measured data can be extrapolated to yield the flutter speed. It is believed that the same technique can be employed in full-scale flight tests to obtain high-quality data without endangering the aircraft or its crew.

(Concluded on page 382)



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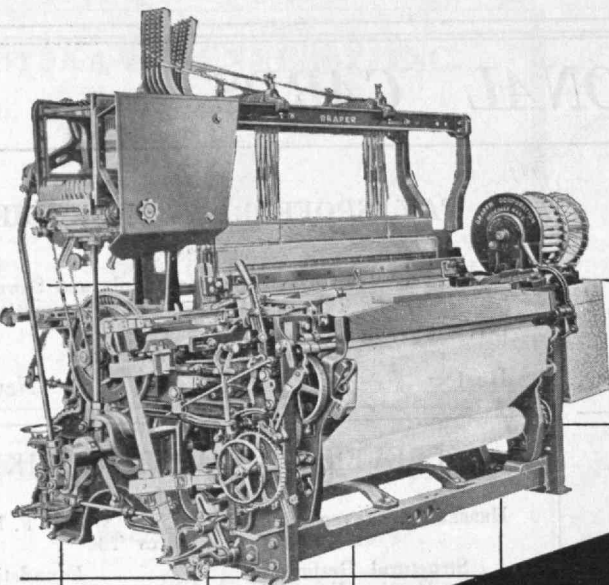
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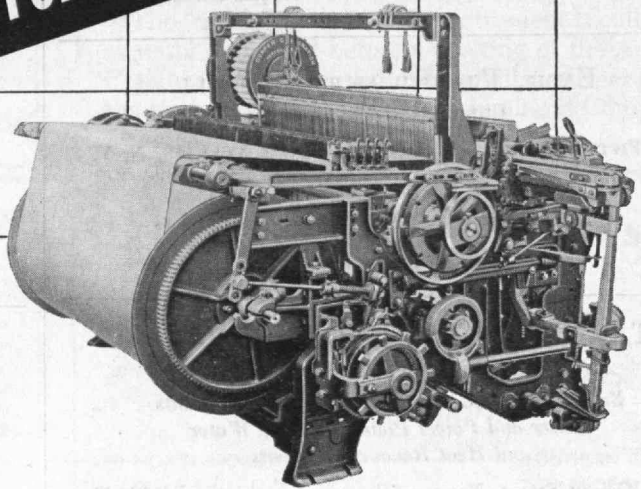
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Alumni AND Officers IN THE News

Congratulations

Announcement was made on March 6 that JAMES A. COOK'12 had become president of the Lynn Gas and Electric Company.

JOHN A. LUNN'17 became a member of the board of directors of the Kendall Company as announced by the Boston newspapers of March 28.

HAROLD E. MACDONALD'22 moved to the presidency of the Household Finance Corporation in March.

JOHN B. WILBUR'26, Head of M.I.T.'s Department of Civil and Sanitary Engineering, was elected president of the Boston Society of Civil Engineers on March 21 at the society's 103d annual meeting. Other Alumni elected to office include: J. STUART CRANDALL'17, vice-president; ROBERT W. MOIR'27, secretary; and DEAN PEABODY, JR., '10, director. KARL R. KENNISON'08 was made an honorary member of the society.

JOSEPH D. MURPHY'29 became president of the St. Louis chapter of the American Institute of Architects in February.

The appointment of THOMAS W. MACKESEY'32 as dean of the College of Architecture at Cornell University was announced on March 25.

Presentations

The Engineering Societies of New England have announced that KARL R. KENNISON'08 is the recipient of the New England Award for 1951. Presentation of the award was scheduled for May 3, at the time of the ESNE annual meeting. On February 1, M.I.T.'s Department of Civil and Sanitary Engineering announced Mr. Kennison's appointment as a special lecturer in hydraulic engineering during the 1951 spring term.

EDWIN S. BURDELL'20 was presented with the Knight Cross of the Order of Dannebrog on March 30. The Cross was bestowed by King Frederik IX of Denmark "in recognition of Dr. Burdell's active interest in the field of promoting cultural relations and exchange between the United States and Denmark."

Announcement was made in March that C. RICHARD SODERBERG'20, Head of M.I.T.'s Department of Mechanical Engineering, was awarded the honorary degree of doctor of technology by the Chalmers Institute of Technology, one of Europe's most distinguished technical institutions.

MALCOLM S. McILROY'47 has been awarded the 1950 John M. Goodell prize for "the most notable contribution to the

science of water works development during the year."

JOHN C. SHEEHAN, staff, received the \$1,000 American Chemical Society Award in Pure Chemistry at a general assembly of the society on April 2. Dr. Sheehan has done work vital to the synthesis of penicillin. An award address was presented by Dr. Sheehan before the division of organic chemistry on April 4 during the American Chemical Society's 119th national meeting in Boston.

Publications

A report by the president's Communications Policy Board has been published by the United States Government Printing Office under the title, *Telecommunications: A Program for Progress*, and dated March, 1951. Members of this distinguished board include: Lee A. DuBridge, William L. Everitt, JAMES R. KILLIAN, Jr., '26, David H. O'Brien and Irvin Stewart, chairman.

EDWARD W. KIMBARK'33 is the author of *Power System Stability, Volume II: Power Circuit Breakers and Protective Relays*. This is a John Wiley and Sons, Inc., publication.

The first of several two-volume sets of letters written by Theodore Roosevelt were published on April 18 by the Harvard University Press. Subsequent sets will be published ending sometime in 1952. *The Letters of Theodore Roosevelt*, some 6,000 in number, are edited by ELTING E. MORISON, staff.

Obituary

HENRY G. PEABODY'78, March 25.
GEORGE H. BRYANT'83, March 5.
HERBERT L. B. LAWTON'86, January 23.
VERNON F. WORCESTER'86, February 17.
JOHN M. FOX'87, July 12.
GRANVILLE H. PARKS'87, July 5.
LEWIS E. JOHNSON'89, March 18.
FRANK A. MOWER'89, March 13, 1950.
FRANKLIN W. WHITE'90, December 19.*
MARY P. WINSOR'90, September 1.*
HARMON WENDELL'91, in 1947.*
CHARLES S. PASTORIUS'93, November 25.
JOHN I. SOLOMON'93, April 1.
WILLIAM H. KING'94, March 20.
ALFRED L. SIMMONS'95, in February, 1951.
WILLIAM P. ANDERSON'96, February 26.*
FRANK D. CLARK'96, March 9.
CALVIN I. CROCKER'96, February 15.
CHARLES P. LYNCH'96, February 26.*
ALBA H. WARREN'96, March 27, 1950.
EZRA E. CLEAVES'97, January 9.*
FRANK W. SNOW'98, March 10.
HARRY A. F. CAMPBELL'99, February 26.*

GEORGE E. HOLMES'99, March 23, 1942.*
CHARLES W. SWIFT'99, October 14.
JENNIE K. McMASTER'00, December 26, 1947.*

ALEXANDER PHILLIPS'00, August 9.*
WILLIAM H. WEDLOCK'00, January 3.*
CLAYTON ALBISTON'01, December 21.*
HENRY O. TROWBRIDGE'02, January 28.*
EUGENE D. FORBES'03, January 19.*
JOHN B. RAPIER'04, January 15, 1931.*
RUSSELL RAY'04, July 21.*
JOHN W. ROLAND'04, November 6.*
MRS. THOMAS N. HEPBURN'05, Mar. 17.*
SCOTT C. RUNNELS'05, January 1, 1950.*
MRS. JAMES W. SANTRY'05, June 17.
GEORGE H. BUCKINGHAM'06, December 18.*

CHARLES R. FABEN'07, May 14, 1950.
ROGER D. GALE'07, March 12.*
ROBERT E. THAYER'07, February 25.*
RAYMOND WARE'07, January 22.*
JOHN C. CHILDS'08, November 25, 1945.
JOHN T. ELLSWORTH'08, October 26.*
HAROLD I. EATON'09, in January, 1951.*
FRANK S. LOVEWELL'09, February 11.*
THOMAS J. MOORE'09, January 6.*
EDWARD F. ORCHARD'09, August 15, 1948.
HERBERT R. PETZOLD'09, January 17.
ARTHUR M. ROSENBLATT'09, April 15, 1950.

EUGENE S. ANDERSON'10, date unknown.*
JAMES W. DICKINSON'10, July 9.
HENRY SCHUMANN-HEINK'10, March 30.
ALICE S. WILLOUGHBY'10, March 8.
CLARENCE L. OFENSTEIN'11, January 27.*
WILLSON Y. STAMPER, JR., '11, February 9.*

ALFRED L. LOEBENBERG'13, January 27.*
FRANCIS S. CURTIS'13, January 9, 1950.*
HARLAND F. BROWN'14, date unknown.*
RALPH M. EMERSON'14, January 22.*
ALBERT F. CORNELIUS'15, June 6.*
NORTON M. ZINDERSTEIN'16, January 30.*
ANSELMO KRIGGER'17, February 11.
INGRAHAM CURTIS'18, date unknown.
ARTHUR J. GUIRANOVICH'18, July 28, 1946.
EARLE F. WATTS'20, March 10.*
PHILIP W. CLARK'21, February 9.*
JOHN A. FACEY'21, January 15.*
IRA P. JONES'21, March 30, 1949.*
MELVILLE J. MARSHALL'21, October 22, 1949.*

CHARLES H. CUNNINGHAM'22, in 1949.
MAURICE F. FAINSBERT'22, August 7.
EARL S. CLARK'23, January 28.*
HERBERT C. MITCHELL'23, August 12.
MAURICE P. KULP'26, November 27.
LUCIEN L. ELAM'29, October 12.
PAUL T. JONES'30, January 30.
DANIEL J. CHIPPENDALE'33, in September, 1941.

ARTHUR Y. SNELL'33, October 14.*
VITO M. CZEIKUS'34, December 9, 1948.
NORMAN H. KENDALL, 2-44, April 19, 1947.
DANA E. COOK, 2-46, October 23, 1949.
CHARLES DOBONY, 2-46, February 16.
WILFRED A. GRAPES, JR., '49, in 1950.
ROBERT L. JUNGKLAS'50, August 18.
JOHN C. WESTCOTT'50, December 2.

*Mentioned in class notes.

News FROM THE Clubs AND Classes

CLUB NOTES

The M.I.T. Club of Chicago

January 27 was a banner day for the M.I.T. Club of Chicago, which in co-operation with the Institute and with other M.I.T. clubs in this part of country, acted as sponsors of an M.I.T. Midwest Alumni Regional Conference. This was not only the first such regional conference in the Middle West, but was the first to be undertaken anywhere in the country. The setting was appropriately arranged at the Museum of Science and Industry in Jackson Park on the south side of Chicago, where the meeting was held. Headliners from the Institute came out from Boston to talk in terms we could understand on scientific and engineering subjects of current interest. They brought equipment for demonstration, and the setup on the platform of the auditorium of the Museum reminded us of the good old days in Room 10-250. The conference was an all-day affair running from 10:00 A.M. to 9:00 P.M., and included luncheon, cocktails and dinner.

Lead-off man for the program was George R. Harrison, Dean of Science at the Institute, who talked on "New Frontiers in Science" and the relationship of research to industrial development and the advancement of mankind. Next came Jerrold R. Zacharias, Director of the Institute's Laboratory for Nuclear Science and Engineering. He talked on "Nuclear Power and Why We Don't Have It" and reduced his topic to such simple terms that we could see uranium and neutrons operating as if in our own fireplace.

Just before lunch, D. M. MacMaster, Acting Director of the Museum, spoke briefly on the Museum of Science and Industry. Luncheon was served at the Museum, and during the noon hour we had an opportunity to inspect many of the unusual and extensive exhibits. Quite a number of our group went down into the miniature coal mine and others inspected radio and television facilities, or visited the unique collection of automobiles dating from the early days to the present time.

During the afternoon, we heard first from Donald P. Campbell, assistant professor of the Institute's Electrical Engineering Department, on the topic of "Industrial Process Control," an amazingly interesting glimpse into the intricacies of automatic machines and how they are made automatic. The anchor man for the formal program was Richard H. Bolt, Director of the Acoustics Laboratory at the Institute, whose topic was "Sound and Ultra Sound." Dr. Bolt took us through a wide range of demonstrations all the way

from precipitating fog with high frequency to playing a recording of "Rudolph, the Red Nosed Reindeer."

Before dinner we adjourned to the Windemere Hotel across the Park for cocktails and an opportunity to visit in small groups and to get acquainted with Alumni who had come from other cities to join us. Dinner was served in the Museum dining room. After the meal, Stan Humphrey '28, President of our Chicago Club, welcomed our visitors and guests and then turned the meeting over to Bob Wilson '16, who acted as master of ceremonies. Major Lenox R. Lohr, Director of the Museum and of Illinois Civilian Defense, spoke briefly. Lobby Lobdell '17 regaled us with stories and supplied some of the background information about organizing the regional conference. We are always glad to see Dr. Compton and to have his message, and his talk at our dinner meeting was no exception. We enjoyed having both Bob Wilson and Dr. Compton at the speakers' table where they could poke a little fun at each other and relate for our benefit some of the incidents of their student days together at Wooster College in Ohio.

In spite of cold and snowy weather, approximately 250 men attended the conference. According to our best count, Alumni from other cities included seven from Milwaukee, four from Detroit, four from St. Louis, three from Philadelphia, one from Cleveland, one from Akron, one from Cincinnati, one from Indianapolis, and nine from various towns in central Illinois and central Wisconsin. Among the guests were a number of Chicago educators, engineers and industrialists. In arranging the conference which was a new departure in Technology history, organization work at Cambridge was headed by Lobby Lobdell '17, Executive Vice-President of the Alumni Association, Wally Gale '29, Associate Professor of Aeronautical Engineering, and Don Severance '38, Alumni Secretary.

At Chicago much credit is due Bob Guinness '34 who was the able chairman of our Chicago committee which organized and managed the conference at this end and who introduced the conference speakers through the day. Also doing real work on this committee in Chicago were Bud Meissner '43, Jack Austin '36, Leonard Russum '47, and Harlan Davis '40. — PHILIP L. COLEMAN '23, Secretary, 208 South La Salle Street, Chicago 4, Ill.

Atlanta Alumni Association of the M.I.T.

The Association held its 41st annual baked bean dinner at the home of C. A. Smith '99 in East Lake, Ga. The affair was greatly enjoyed by the members and their ladies. As usual, officers were elected for the ensuing year. Charles W. Mills, Jr., '35, the retiring president, handed over the gavel to Clarence B. Rogers '14, the newly

elected president. Mrs. Georgia Locklin was re-elected business manager and L. H. Turner '99 was re-elected secretary.

The following members were present: Roger W. Allen '27, Russell J. Brooke '33, Douglas W. Coe '21, Maurice A. Garr, Jr., '49, Leon B. Locklin '28, Charles W. Mills, Jr., '35, Clifford S. Read '18, Clarence B. Rogers '14, Elmer E. Sanborn '22, Charles A. Smith '99, Carol M. Smith '32, Lawrie H. Turner '99, and Baker B. Williams '42. Among the ladies attending were the Mmes: Brooke, Coe, Garr, A. F. Hess, Locklin, Mills, Read, Sanborn, C. M. Smith, Turner and Williams; and Ruth Dabney Smith. — LAWRIE H. TURNER '99, Secretary, 625 Sherwood Road, N.E., Atlanta, Ga.

M.I.T. Club of Central Massachusetts

There have been two meetings of this Club since these notes last appeared. The midwinter meeting was held on January 29 at the Hotel Sheraton in Worcester. More than 40 members and guests braved one of the worst ice storms of the winter to hear a very interesting program on "Broaching in Modern Industry." Mac Levine '25, President, conducted the meeting, and Howard F. Atwood '32, of Lapointe Machine Tool Company, Vice-president of the Club, was program chairman. James W. Dopp, Jr., '39 and Kenneth N. Macomber, engineers for the Lapointe Machine Tool Company of Hudson, Mass., gave very instructive talks on broaching indicating where the process might be used and the great savings that can often be effected by its use. The talks were supplemented by two sound films, "Surface Broaching," and "Broaching for Jet Propulsion." A display of broaches and products that had been broached helped further to show what the process of broaching is and what it can accomplish. — A committee was appointed to work out a program to honor members of the Club from the Class of 1900 and all earlier classes. The members of the committee were: Maurice E. Goodridge '19, chairman, Arthur E. Jorjorian '31, and Donald M. Whitehead '45.

The late winter meeting was held on March 19 at the Hotel Sheraton. Rev. Thomas J. Smith, S.J., '43, head of the department of physics at Holy Cross College, gave a most instructive talk on "Atomic Defense." Preceding Father Smith's talk, a sound film, "You Can Beat the A-Bomb," was shown. The talk and the film both brought out the fact that, although casualties and destruction would be severe in an atomic attack, loss of life and severity of injuries could be greatly reduced by knowledge of the hazards and taking the proper steps to minimize exposure to them. At this meeting members of the 50-year class and all earlier classes were invited to be guests of the Club, and those present were given bronze paper

weights in honor of the occasion. The following 50-year men were present: Edward Earl'91, Carleton A. Read'91, Fred B. Dawes'98, Edgar W. Norton'98, and William A. Wilder'98.

In addition to the above, the following Alumni were present at one or both of these meetings: Harry M. Latham'93, Herbert S. May'02, Harry S. Kendall'04, Roderic L. Bent'19, Frederick E. Clafin'19, Maurice E. Goodridge'19, Frederick S. Britton'20, Ernest P. Whitehead'20, Benjamin J. Bean'24, Frank H. Riegel'25, Robert T. Dawes'26, Robert N. C. Hessel'27, Arthur E. Jorjorian'31, D. Jack Allia'31, Wallace S. Crowell'32, F. Francis Donoghue'32, George W. Falk'32, Frederick E. Mader'32, Robert G. Clarke'35, Arthur J. Lariviere'35, Richard F. Morton'36, Haskell R. Gordon'38, Jack T. Wilber'38, Alvin H. Shairman'43, George H. Powers'44, Gardner L. Bent'44, Donald M. Whitehead'45, S. Martin Billett'48, Raymond R. Stevens, Jr.'48, Warren O. Berry'49, and Carl F. Mellin, Jr.'50.

The annual meeting and ladies night is to be held on May 14, according to present plans. — DONALD M. WHITEHEAD'45, *Secretary*, 464 Salisbury Street, Worcester, Mass. WARREN H. HOWARD'44, *Assistant Secretary*, West Main Street, Shrewsbury, Mass.

M.I.T. Association of Cleveland

Lobby came to town on March 15 and gave us good reason for having a regular alumni meeting that evening at the University Club. Lobby, although known to us by that name, has the name H. E. Lobdell, and not only is the publisher of *The Review* but is executive vice-president of the Alumni Association. A number of us probably remember him as the dean of students to whom it was always a pleasure to take a problem as his friendly, jovial attitude certainly began the solution with ease. Lobby is on his way to other countries and when reciting his itinerary made us wish we were on the trip, too. Willard Brown'16, undoubtedly will make his coming trip to Europe more pleasant by having talked for a while with Lobby. We were delighted by the film of the United States Steel Corporation which showed in vivid color the erection of the steel for the Secretariat Building of the United Nations. Walter Munford'23, Vice-president of the American Steel and Wire Company, made the film available to us.

Those in attendance were: W. J. Anderson'50, J. P. AuWerter'38, A. I. Bradley'21, W. C. Brown'16, W. H. Buckley'48, R. W. Cobean'40, D. S. Connelly'31, A. P. DiVincenzo'47, J. L. Enos'49, J. S. Ewing'42, P. B. Farwell'39, L. D. Fykse'41, J. W. Gartland'21, C. E. Herrstrom'24, A. J. Hoyt'14, E. P. Klipfel'48, W. G. Loesch'21, G. C. McCarten'19, L. W. Moss'21, S. D. Moxley, Jr.'50, W. F. Munford'23, N. W. Oakes'21, F. E. Rhinehart'27, W. H. Robinson, Jr.'24, W. C. Sessions'26, G. P. Schumacker, Jr.'22, H. C. Sharp, Jr.'50, E. E. Staples'26, R. H. Valentine'33, G. M. White'41, L. E. Wright'13, G. R. Young'37, H. A. Zimmerman'37. — G. RICHARD YOUNG'37, *Secretary*, The Weatherhead Company, 300 East 131st Street, Cleveland 8, Ohio.

The M.I.T. Club of the Kanawha Valley

The Club met for dinner on March 1 at the Kanawha Airport, Charleston, W.Va. The dinner was held in the Club Room. After the dinner the members attended a basketball game at Morris Harvey College in Charleston. President George B. Bradshaw, Jr.'40, announced that election of club officers would be held at the next meeting sometime in May.

The 23 members who attended the dinner and game were: Malcom M. Anderson'42, Thomas W. Bartram'21, George B. Bradshaw, Jr.'40, Daniel B. Carmody'47, Roy M. Crawford'34, Paul R. DesJardins'38, Radcliffe G. Edmonds'34, William L. Hawes'22, Edward Huddleston Haynes'32, Melville E. Hitchcock'37, Charles F. Hobson'11, Joseph C. Jeffers, Jr.'40, Ralph L. Kelly, Jr.'42, Robert W. King'42, Jean P. Leinroth, Jr.'48, Robert S. Lovett'50, Max F. Means'45, Albert Rand'50, Robert J. Sollenberger'42, Rush Taggart, Jr.'49, Alfred E. Winslow'47, Benjamin T. Woodruff'36, Frederick A. Woods'47. — MAX F. MEANS'48, *Secretary*, 248 Staunton Avenue, South Charleston, W.Va.

M.I.T. Club of the Merrimack Valley

Alumni in this area are invited to attend a meeting of the Club on May 15 to be held at the Andover Country Club. We are indeed fortunate to have as our principal guest, James R. Killian, Jr.'26, President of the Institute, who will discuss recent developments at M.I.T. Other guests include Mrs. Killian, Obie Denison'11, and Alumni Secretary Don Severance'38. The meeting is scheduled for 6:30 P.M.; but for those who would like to make it a day's outing, the golf course is now open. Wives are cordially invited.

Members of the reorganization committee include: Charles F. Edlund'30, Lowell; Edward F. Harrington'32, Forge Village; Walter E. Hildick'28, Lowell; Howard A. Lockhart'23, Haverhill; Christian J. Matthew'43, Andover; Edward F. Praetz'21, Lawrence; E. Stephen Prendergast'30, Amesbury; William J. Vallette'43, Newburyport; and Dean K. Webster, Jr.'19, Andover. We hope all Alumni in the Merrimack Valley will be able to attend this meeting and help get the Club off to a good start. — CHRISTIAN J. MATTHEW'43, *Secretary*, R.F.D., Woburn Street, Andover, Mass.

New Haven County M.I.T. Club

The February meeting of our Club will go on record as one of our finest dinner meetings. It was held at the New Haven Restaurant Institute and was attended by some 50 loyal engineers and families. Our own Charlie Smith'00 and Vince Maconi'15 led the assembled beavers to a delicious buffet dinner. The serving table presented a sight long to be remembered: a large beef roast, sea food Newburg, several colorful salads, rolls, celery, and so on. No record was kept of the number of second helpings served, but be it known that your Secretary (four second helpings) was exceeded only by such people as Charlie Healy'37 and his new bride,

Johnny Gardner, 2-44, Dave Black, 6-46, and, of course, Prexy Cliff Lytle'37. The main course was climaxed by coffee and delicious pie, followed by more coffee. Eben Haskell'26, a director of the school, introduced Mrs. Frances Roth, administrative director of the Restaurant Institute, who addressed us regarding the origin, trials, tribulations and aims of the Institute. It seems as though everyone in Connecticut and surrounding states pitched in to help get the school started training G.I. veterans, and so on. Although hampered by the extreme reluctance of "up through the ranks" chefs to disclose their culinary top secrets, the school progressed remarkably well, having over 600 alumni to date and a present enrollment of 140 students. At this point, it was unanimously agreed that, based on the evidence on hand, too many cooks definitely do not spoil the soup. (Secret: For excellent coffee, boil your urn in water and soda, not Seltzer. If you don't own a 20-gallon urn, we cannot guarantee the results! The meeting was adjourned only after President Cliff insisted on pulling that old chestnut about a certain Father O'Brien. It seems . . . oh well! Major and Mrs. John Holley'35 were conspicuous by their absence. He has been recalled to active duty. Drop in when you can, Johnny.

Our March meeting was held at the Weathervane Tea Room in Hamden, Conn., at which time we were again joined by the distaff side. The gathering started out with cocktails at 6:30 P.M., followed by a fine dinner of pot roast or fried chicken. After the meal, Alan Dana'15, an active member of our Club, entertained us with a description of his recent trip through South America. It seems that the Rotarians had an international meeting which included a flying tour of South America's principal cities. Alan, who is an exceptionally fine photographer, illustrated his talk with a full program of delightful Kodachromes. It is often difficult for all winter-bound New Englanders to visualize the wonderful color panorama one finds in tropical and subtropical countries. His selections included many aerial shots as well as many unusual scenes of mountains, gardens, local architecture and slides of Rio de Janeiro from every conceivable angle. After his illustrated talk, each and every member present considers himself an authority on South America and even we Kiwanians are grateful to Rotary for having these South American meetings so that Alan Dana could make this trip. Thank you again, Alan. — RICHARD C. MACONT, 2-44, *Secretary*, Hickory Hill Road, North Haven, Conn.

The M.I.T. Club of New York

Sixteen hardy souls braved sleet and snow to have fun at a bridge party on January 18. Mike Radoslovich'26 deserves the kudos as chairman of the event. — In February a variation giving full importance to the Laws of Probability and Chance brought out a larger group also in defiance of sleet and snow. The April informal dance was a big success (being free to members) and a merry crowd of more than 100 persons thoroughly enjoyed themselves at our club quarters.

The annual dinner is now set for Wednesday, May 16, at the clubhouse. After dinner, a short business meeting will precede the entertainment. Golfers are circling their calendars for Friday afternoon, June 29. That's our golf outing to be held at the Scarsdale Country Club.

At these monthly gatherings more fellows are getting to know M.I.T. in New York — and are broadening their friendships with other Alumni in the New York area. Expanding membership rolls show that M.I.T. in New York is going places. — G. PETER GRANT, JR., '35, *Secretary*, Grant Photo Products, Inc., 401 Broadway, New York, N.Y.

M.I.T. Club of Schenectady

The Club met at luncheon at Ferro's on February 20, 1951. Featured speaker at that meeting was Harry R. Mayers, manager of the patent department at General Electric. Mr. Mayers spoke on the topic, "The Inside Story of Patent Pending." Mr. Mayers discussed various unusual devices which have been covered by patents and also went into some of the mechanism by which patents are granted. The talk was quite warmly received by 20 area Alumni and one guest.

It is worthy to note that at the last few luncheon meetings, the speakers of the Club have been attracting more and more guests. Men from Minnesota, Yale, University of Maine, North Carolina and other institutions have contacted the Secretary to ask permission to attend. We have welcomed these and will continue to do so.

The Club had luncheon once again at Ferro's in Schenectady on March 20. This time we heard A. C. Stevens, assistant to the Schenectady Works Manager of the General Electric Company, address the Club on the "Why and How of Labor Relations." Holten E. Harris '44, member of the Steering Committee, was in charge of meeting arrangements.

The Education Committee in recent months has been working with the board of education towards determining a means of financing proposed school additions. Their object was achieved several weeks ago when the Schenectady City Council voted to appoint a committee to prepare a plan whereby the additions would be covered by a bond issue.

Among those present at the February meeting of the Club were: Andrew Vogel '13, P. M. Currier '14, P. L. Alger '15, A. P. Kellogg '24, H. J. Moser '27, C. F. Barrett, Jr. '34, J. H. Burnham '34, C. C. Lawry, Jr. '39, G. M. Ketchum '41, J. H. Macleod, Jr. '41, R. W. Stanhouse '41, W. W. Aker '41, R. W. Austin '42, A. A. Root '43, R. M. Ilfeld '44, H. E. Harris '44, J. H. Germer, 2-44, R. E. Wilson '45, P. H. Baker '48, George Brown '48. — E. S. LAWRENCE '47, *Secretary*, General Electric Company, Building 99, Room 102, Schenectady 5, N.Y.

M.I.T. Club of Southern California

It is a pleasure to announce the names of the governors of our Club who, with the officers named in the April issue of

The Review, keep the club affairs up to date and responsive to the members wishing to improve it. Each governor is responsible for the Alumni of a particular five-year period, which idea we copied from the M.I.T. Club of Philadelphia, perhaps due to the persuasive personality of their former officer now gracing California — Bill MacCallum '24. To increase the effectiveness of their efforts, each one appoints a class secretary for this area. Dingle '48 and Wyle '41 have made progress, but the gold-plated beaver for industry goes to Row '23 who has announced his five: 1921, Chilcott; 1922, Maltby; 1923, Powers; 1924, Carothers; and 1925, Grantham.

The governors for this area are: 1946 to 1950, Dingle '48; 1941 to 1945, Wyle '41; 1936 to 1940, Strauss '38; 1931 to 1935, Hiller '31; 1926 to 1930, Thormin '27; 1921 to 1925, Row '23; 1916 to 1920, Collier '18. For the years 1915, and prior, that loyal and active Alumnus, Mellema '15, has been chosen. Bates '24, as retiring president, will bring his talent to the monthly meetings. These meetings are open to all Alumni, especially for those visiting this area and for Alumni who have some plan of strengthening the Club and making it of more value to the individual Alumnus. Practically the entire group of officers and governors was at the University Club for noon luncheon on February 28. Transfer of funds from Cunningham '27 to the new treasurer, MacCallum '24, was authorized, and George reported \$300 paid on the directory contract with the prospect that after the final payment was made the cash balance would be extremely satisfactory. Recognition of those who pay dues in a substantial manner is planned. Dropping from the mailing list of those who show little interest was discussed, and Hereford '24 is planning a letter to arouse those hibernating. Very good suggestions to make future governor meetings interesting and effective were made by Stringfield '15. The finance committee was given full power to expend cash, making a report at each monthly meeting. Herrick '24, Assistant Secretary, volunteered to make a list of the Alumni interested, to date, as shown by attendance, payment of dues, gift to the Development Fund campaign, and so on.

President Golsan '34 announced the following chairmen: membership, Hereford '24; publicity, Strauss '38; programs, Cunningham '27; plant groups, Dickey '47; budget, MacCallum '24; placements, Stringfield '15; scholarships, Row '23. The meeting reception committee has twin chairmen: Constance Sammis '29 and her elder partner, Ford Sammis '28. Those present were Beebe '10, Morton '13, Mellema '15, Stringfield '15, Row '23, Herrick '24, MacCallum '24, Cunningham '27, Thormin '27, Hiller '31, Golsan '34, Strauss '38, Wyle '41, Stanley 2-44, and Dingle '48. Bylaws were adopted and the inclusion of all Alumni just coming into the area in the meetings of the governors, by specific invitation, was voted. Alumni are urged to send in items regarding themselves and other Alumni. The Secretary had the pleasure of visiting the Food Fair at the Hotel Roosevelt, in charge of Cunningham '27. Samples of all products orig-

inating within the preceding 12 months were exhibited.

Spear '26 desires the name of any Alumnus handling subscriptions to technical magazines. He has taken the position of production engineer for American-Electro-Mechanics, makers of electric actuators for aircraft, at 421 South Raymond Avenue in Pasadena. The Alumni will miss the subscription services of Cleaveland '98, who died recently. Cleaveland was of great help in correcting the addresses of Alumni. The 1951 directory should have been on the press before the 15th of April and it contains the names of probably 1,150 Alumni with telephone numbers and addresses, both home and business. It was made possible by the advertisements and subscriptions of the many loyal Alumni. If you have not received your copy, contact — HIRAM E. BEEBE '10, *Secretary*, 1847 North Wilcox Avenue, Hollywood 28, Calif. (Telephone GR 9572)

CLASS NOTES

• 1886 •

The Secretary of the Class of M.I.T. '86 once more calls attention to the lack of co-operation on the part of the members of the Class in supplying both brain material and money to assist him in keeping the class notes up to date and in paying the expense of the class membership in the Alumni Council. Since he took over in December, 1947, he has received \$87 (of which \$16 is out of his own pocket!) and has expended for council meetings, railroad and car fares, night accommodations, postage, mimeographing, and so on, \$77.39, leaving a balance of \$9.61. Four more meetings of the Council will require some \$25 additional to cover the anticipated expense of the 1950-1951 season and leave a small balance with which to start 1951-1952 next November. Of the 29 names with addresses on the list of 1886 Alumni, supplied by the Alumni Secretary, 19 are classed as from M.I.T. and 10 as from the School of Mechanic Arts.

The M.I.T. group have paid in \$73 and the S.M.A.'s \$14, which latter amount would seem to be fair as S.M.A. '86 has its own well-managed organization to support in addition to the Alumni organization. Both groups are receiving The Review this year whether or not they are subscribers to the Alumni Fund. If the M.I.T. men who have sent me less than a dollar a year each for 1948-49-50-51 (\$4) would ante up enough to bring their contributions to that mark at least, the Secretary would have sufficient funds (he thinks) to take care of the anticipated expense for the year. He will send individual notices to the members who are below that limit in the hope that they will see their way clear to join the "sheep" and leave the "goats."

The losses by death since 1947 are Birney Batcheller of the M.I.T. and Charley Herrick, Benjamin Howe, Fred Whitney, and Will Smith of the S.M.A., all of

whom have been mentioned in past numbers of *The Review*. — ARTHUR T. CHASE, *Secretary*, Post Office Box 4, Island Creek, Mass.

• 1890 •

Another '90 man of whom we have been proud because of leadership in his profession has passed on; Franklin White died on December 19, 1950. He had been at our 60th reunion in June, as vigorous as ever, and said, with the same old twinkle in his eye, that though he had recently retired he was busier than he had ever been before. He told us that after graduating he worked with Professor Sedgwick studying state sanitation, then went to Harvard Medical School from which he graduated in 1895. Later he studied in Berlin and Vienna, and in 1900 began teaching at Harvard Medical; and he continued this, in addition to his active practice, until the end of World War II; also when M.I.T. decided that a medical adviser for students was needed he became the first to act in that capacity. In the meantime, he was making use of the chemistry and bacteriology he had learned at Technology and in 1908 his first paper on bacteriology and internal medicine was published. The same year he became a member of the American Gastroenterological Society, of which he was secretary for a considerable time, and in 1927 became president. From that Society in 1948 he received the highest honor possible, the Freidenwald Medal. In presenting it, Dr. Mateer said: "His contributions cover the entire field; all of his writings portray painstaking observations and keen interpretation, a progressive spirit in evaluating new methods, but marked conservatism in his deductions. . . . He has such a delightfully subtle manner of partially concealing his constructive criticism in the form of a searching question that he never hurts the man he is trying to help." From the *Boston Globe* we copy: "He was for many years consulting physician at the Boston City Hospital, and connected with the Massachusetts General and other hospitals. He was a specialist on food values and digestion, and was secretary and chairman of the section of gastroenterology of the American Medical Association, regent of the American College of Physicians, a member of the American Roentgen-ray Society, and a member of the Association of American Physicians. He was United States delegate sent by the Department of State to the first International Congress of Gastroenterology at Brussels, and was one of the founders of the International Society. He was a member of the Eastern Yacht Club, the Appalachian Mt. Club and the Harvard Club." Our sympathy goes out to his wife, who has been at our reunions, and to his son and daughter.

And in another and quite exceptional line we are pleased to find another '90 student has been a leader. Among those who took special courses with us in the early years was Mary P. Winsor who in 1886 had a small class of little girls in Boston. This was the beginning of her continuously very successful Winsor School for Girls. Notice of her death on September 1, 1950, has just been received and from the *New York Times* we quote: "The

school grew from an enrollment of 12 to one of 300 and became the socially acceptable day school for Boston girls. The school pioneered in the introduction of physical education and science in the curricula of girls' schools. Miss Winsor taught French and the history of art. In 1922 she retired and thereafter devoted many years to travel. She was also interested in music and enjoyed singing with choral clubs." Surviving her are three sisters.

Harry Burley had been quite ill late in the fall and it is grand to hear through Charles Sherman that he is much better and his voice sounds strong and natural. The Secretary left after Christmas with Mrs. Packard for another winter in Longwood, Fla. This is a little east of the center, near Winter Park and Orlando, in an area with thousands of acres of citrus fruit and a multitude of lakes, on the shores of which are many charming homes with attractive gardens. En route a telephone chat with John Crane found him well and with some interesting business on his hands. — GEORGE A. PACKARD, *Secretary*, 53 State Street, Boston 9, Mass. CHARLES W. SHERMAN, *Assistant Secretary*, 16 Myrtle Street, Belmont 78, Mass.

• 1891 •

It was 66 years ago last September that the members of this great Class gathered on Rogers steps, full of ambition, enthusiasm and pride, for four years of interesting study and association with others of like minds, in preparation for life work. The four years of hard work with its joys and sorrows passed all too quickly and then we scattered to seek our fortunes and play our separate parts in the world. The Alumni Association and our class gatherings where we have reminisced about our old friends and experiences have served to keep many of us in touch; but there are others from whom we would like to hear so we can all know what they have been doing and are doing now. The *Review*, which will for the present be mailed to all members of the Class, gives an opportunity to pass along such information to all members of known address. Such a letter to your Secretary will be greatly appreciated by all your old classmates. It will be read at our next class gathering and summarized in the next issue of *The Review*.

The only item of current news available to your Secretary for this report is the change of address of King W. Mansfield from Westport, Connecticut, to Pine Hill Road, East Norwalk, Connecticut. We have also to report the death of Harmon Wendell which occurred in 1947, but has only just come to our attention. Another matter of interest which has emerged from the long-forgotten past is that the formation of a full course in chemistry was due to the direct action of 10 members of the Class of '91, who threatened to leave the Institute unless. This strike action of 60 years ago was successful and "my, how chemistry has grown" since we at that time learned a little of the truth, but not the whole truth and nothing but the truth. Arrangements have been made by our good president, Harry Young, for our next class gathering at a noon dinner and afternoon reunion at the Country Club, Brookline, Saturday, June 9. Those

desiring transportation from Boston should notify the Secretary and meet at the Algonquin Club, 217 Commonwealth Avenue, at 11:00 A.M. Transportation will be arranged for return to Boston in the late afternoon. Tables will be reserved for the 60-year Class of '91 at the noon Alumni Day luncheon in Du Pont Court on Monday, June 11, and also at the Alumni dinner at the Copley Plaza that same evening. We earnestly hope for a good representation from our depleted membership. — FRANK W. HOWARD, *Secretary*, Bemis Associates, Inc., Post Office Box 147, Watertown 72, Mass.

• 1895 •

When a fellow loses a friend, that is one thing; when he loses a friend, who has been a friend to many, many others, that is another thing! Allison Owen passed away at the age of 81, at the Hotel Dieu, New Orleans, on Wednesday, January 31, 1951. Allison Owen was first an architect, with the firm of Diboll and Owen, which in later years was changed to Allison Owen and Associates. He taught history of architecture at Tulane University. As a soldier, he served in three wars. He commanded the crack Washington Artillery in World War I, and the Mexican border hostilities. He rose from a sergeant to his position as commander, and on his retirement had the rank of major general, and was honored by many organizations. In 1924, General Owen was president of the Association of Commerce. He served as a member of the city survey committee, and organized the Parkway Commission, in which, except for rare intervals of war or other duties, he was president until his death. To bring a "garden atmosphere" to the city of New Orleans, he and his associates planted 60 miles of flowers and shrubbery.

General Owen belonged to many civic and social organizations. He served the Red Cross chapter for 15 years; was president of the Benjamin Memorial Association and former president of the Community Chest. He was architect for the \$4,000,000 white slum clearance program for the city. He was a leader in whatever he undertook, and he undertook greatly. So varied were his activities that some of his younger contemporaries failed to realize his lofty professional stature as an architect. And those who heard, even recently, his pungent, unrehearsed comments during discussions at the Round Table Club knew that though his years were many and full of honors, Allison Owen had never lost the common touch.

New Orleans would not be the New Orleans of today had Allison Owen not been a part of it — the man who loved flowers and built massive structures of stone and steel, the soldier whose valor was matched by the compassion that moved him to captain the Community Chest, the tolerant liberal who never compromised with evil when leading a crusade for civic reform. On the crypt where another architect was entombed centuries ago in Westminster Abbey are graven the words: "If you require a monument, look about you." He had built the Abbey. The words might well serve as an epitaph for Allison Owen. Not merely such great ar-

chitectural achievements as the Criminal Courts Building, but all the New Orleans of today is an enduring monument to his memory.

More and more, from year to year, we see the sons of Technology Alumni enrolling as students at M.I.T. You may recall that our Class, at its 50th reunion, donated a fund to Technology, the income from time to time to be available for scholarship help to students whose "daddies" were '95 men. Following the recording of the passing of the late Arthur D. Dean of our Class, we learned that he left bequests to the Institute for "any purpose which will directly aid worthy students." As we grow in years, we are liable to forget the chances we have to benefit our rising generation, and, accordingly, this reference is made for your benefit. If you desire detailed information relative to such scholarship helps, write to your Secretary, or to D. P. Severance '38, Alumni Secretary, who will be glad to assist you in any way possible. — Alfred V. Lincoln, Jr., still resides in Charlestown, Mass., but at 12 Cordis Street. — LUTHER K. YODER, *Secretary*, 69 Pleasant Street, Ayer, Mass.

• 1896 •

Your Secretaries have been receiving replies relative to our 55th reunion which indicate that definite interest is being created with prospects of an excellent attendance. It is naturally too early for some of you to make definite returns, as indicated on some of the replies. We have already heard from the following who plan to attend: Henry Hedge will be there for the entire session. Dan Bates, who was spending the winter in the south, expects to be with us. Butler Ames will be there for at least one day. Hattie Gates is coming for the Saturday night supper. Elbridge Jacobs is delighted that we have so many classmates who want a 55th reunion. He will surely be there. Bradley Stoughton, driving up from Bethlehem, Pa., will be going through New York and will be glad of company the rest of the way.

Marshall Leighton finds June a very busy month but says: "I would go almost anywhere to see the fellows." Lewis Breed will attend the entire session. Mrs. Breed will be with him. Henry and Mrs. Tozier will be here for the entire time, if they can possibly make it. If he comes, Henry will bring films of other reunions with him. Helen Dodd will be there Saturday and Sunday, also for the Alumni Dinner. Myron Pierce says: "It will be great to see the boys again; will be there for the class dinner. Bill Coolidge is bringing along his 55-inch screen and projector and will give us fine entertainment on Saturday night. Edward Mansfield is looking forward to seeing the boys. The following have written but for one reason or another cannot attend: Louis Freedman, Irving Merrell, Guy Morrill, and C. E. Batchelder. Fred Damon was enjoying a Panama cruise in March to fit himself for the strenuous duties incident to the 55th reunion.

We announce with deep regret the passing of William Pope Anderson, III, on February 26, 1951. Billy was a very loyal member of the Class, attending most of the reunions. His accomplishments have been far greater than most of us have

appreciated. His quiet and unassuming qualities screened his real ability in progressive thinking and subsequent development of new types of building construction. His philanthropies were numerous and we shall all mourn his departure. The following is taken from a newspaper clipping: "... Internationally known in the construction business, Mr. Anderson was a pioneer in the field of reinforced concrete building. He built the Ingalls Building, 6 E. Fourth St., of reinforced concrete, the first 16-story construction of its kind, without use of structural steel, in 1902, the same year that he founded the Ferro Company. . . .

"Mr. Anderson was President of the Ferro company from its beginning in 1902 until 1924 and then became chairman of the board, serving in that capacity until 1934. Since then he had continued as a director. Although Mr. Anderson retired from active business five years ago, he maintained an office at 817 Transportation Building, Fourth and Sycamore Sts., and was the agent for that building. Mr. Anderson had continued also as a director of the Ferro Realty Co., 203 W. Third St., of which he was a former President; a director of the Central Trust Co., the William Koehl Co., 1034 Hulbert St., paper box manufacturers, and Spring Grove Cemetery Association.

"Founder of the Charitable Relief Association, Mr. Anderson was President of that organization at the time of his death and was a trustee of the Children's Home. He was a Past President of the American Concrete Institute. He held memberships in the Commercial Club, Commonwealth Club, University Club and the Whist Club of Cincinnati and the Abenakee Club of Biddeford Pool. Nationally recognized as a genealogist and the author of three books on his family, he was a member of three genealogical organizations, the Ohio Historical and Philosophical Society, New England Historical and Genealogical Society and the Philson Club of Louisville, Ky.

"Born in Cincinnati, September 5, 1874, Mr. Anderson was the son of the late William P. and Julia Worthington Anderson. He received a Bachelor of Science degree from . . . Technology . . . and began his career later that year as a surveyor for mine and smelting interests in Nevada and Colorado, working there until 1901 when he returned to Cincinnati. In World War I, Mr. Anderson served as a Captain with Army Engineers in England and France.

"Mr. Anderson leaves his widow, Mrs. Marguerite Tullidge Anderson; a son, William Grenville Anderson, Sherborn, Mass., and two grandchildren . . ."

We have just learned that Charles P. Lynch of 2 West Street, Haverstraw, N.Y., died on February 26. We hope to have further details concerning his life in a later column. — JOHN A. ROCKWELL, *Secretary*, 24 Garden Street, Cambridge, Mass. FREDERICK W. DAMON, *Assistant Secretary*, 275 Broadway, Arlington 74, Mass.

• 1897 •

Dr. Ezra E. Cleaves, IV, died on January 9 at the Addison Gilbert Hospital, Rockport, Mass., aged 76 years. Dr.

Cleaves, after completing two years of the architectural course at the Institute, entered the Harvard Medical School and graduated with the class of 1900. He served his internship at the Boston City Hospital, after which period he opened an office in Lanesville, Mass. After a short time there he went to Rockport, his birthplace, and served that community for nearly 50 years. He served as chairman of the board of health and was school physician for 40 years. For 18 years he was secretary of the medical staff of the Addison Gilbert Hospital, and was a former president of the Essex South District Medical Society. He leaves a son, three grandchildren and a sister. — JOHN A. COLLINS, JR., *Secretary*, 20 Quincy Street, Lawrence, Mass.

• 1898 •

As we have just returned from a vacation in the south these notes will necessarily be somewhat desultory. Those classmates that are still in business, and also probably those that have retired, will appreciate that the domestic economic situation is somewhat confused. This is especially true in the woolen and worsted industry, with which we have business dealings, which is under great pressure to produce fabrics for the Armed Forces in the present emergency. Fortunately, we took a vacation before it began to roll at a terrific rate.

First, we wish to thank those of the Class who sent us Christmas and New Year's cards and greetings and/or letters. When the Secretary and his sister returned from the south, it was just like another Christmas to open all the envelopes and to inspect the lovely cards and read the printed and written greetings. Not all, of course, from '98. Incidentally, we found six pounds of candy awaiting us besides a large basket from S. S. Pierce and Company, and there was a basket of pears from Oregon, which, on instructions, our neighbors ate and enjoyed in our absence.

Two letters that awaited us on our return from the southland gave us unusual pleasure: letters from Lester and Margaret Gardner. As you all know, Lester, during 1950, underwent several operations and a long ordeal in returning to his usual vigorous self; and, as many in the Class may not know, in the fall his wife Margaret also was hospitalized. The letters tell the story and we quote in part. Lester writes: "I wish to acknowledge letters, cards and Christmas greetings but the only way I see that I can do it is by one of my usual group letters. If you have not already made a note of our change of address, I would appreciate it if you would do so — it is 875 West End Avenue, New York 25, N. Y. Although 1950 has not been good to the Gardners, with my operation in January and Margaret's in October, we are looking forward to 1951 hopefully. If all the kind thoughts that have come from friends have their good influence, we can hope that the problems of 1950 are behind us. We send all our friends best wishes for a good 1951."

Margaret writes: "Now that I am home from the long stay at the hospital I want to thank all those thoughtful and kind friends who sent messages, through Les-

ter, and those who made my room beautiful with flowers. Even though Lester tried to prevent an overabundance of such lovely remembrances, there was never a time when I was not enjoying colorful gifts from good friends. I would like to have written special letters to each and all of the friends, but I fear that I am in for several months of convalescence, and am neither able nor would I be permitted to write letters of appreciation. I will, therefore, have to adopt Lester's group letter plan which has been so effective in keeping correspondence up to date. From the fullness of my heart, I am grateful to all of you. It was a comforting feeling, when I was in and out of the oxygen tent, to receive your encouraging messages. Modern medical science is miraculous, especially in Lester's case, and all these new treatments seemed to work in my case. So, my heartfelt thanks to you all. In a little while I hope to be able to see friends and lead a normal life."

We were also greatly pleased to receive letters from Van and Marian Lansingh advising us that Marian had returned home after a hospital experience and that they were both leaving New York to spend Christmas with their daughter at Stonington, Deer Isle, Maine.

Looking through the files for material, we found an envelope marked, "Dan's write-up about Dave Fenner and the busses supplied for our reunions." This just supplements notes about our distinguished classmate automotive executive, as narrated in the December, 1950, and February, 1951, class notes. Dan's write-up is as follows: "Dave Fenner has supplied Mack busses over the past 35 years for reunions. The story of automobile progress during this period needs the word 'magic' or 'miracle' or some similar expressions which were used in many of the five-minute papers at our 50th to emphasize the astounding advances made in numerous industries, especially over the recent quarter of a century. At our 15th reunion at Wianno, Mass., in 1913, we were transported there from Boston by our classmates' automobiles. But the four cylinder, 20 H.P. Mack truck gaily decorated for '98 carried the luggage and also the supplies from S. S. Pierce and Company. Perhaps this last item will bring back memories of the 'Conscience Fund.' For the 25th reunion in 1923 at Saybrook, Conn., the New York contingent was conveyed in a four-cylinder 20 H.P. bus on solid tires. To quote from our reunion book: 'Fifteen men from New York came in a magnificent twenty-four passenger motor bus which was placed by Dave Fenner at the disposal of the class for four days. All who had thought to come in their own cars abandoned the idea when they beheld the luxury of this vehicle. This party enjoyed a safe and rapid trip. Connecticut presented some of the worst roads recorded in history, but the Mack negotiated them with complete success.' We will only note that at several following reunions we graduated to six-cylinder 40 H.P. busses on high pressure pneumatic tires. Older ages require something different from solid tires. At the 50th reunion in 1948 we could see where the miracles of a 25-year period had oc-

curred. We had two of the latest Mack 45-passenger busses, each with a 175 H.P., Thermodyne gasoline engine with modern developments in electrical equipment, brakes, tires, ventilating, seating, and so on. Really a palace on wheels. So, thanks to Dave Fenner and his magic Mack busses!" Thanks again, Dave, for this perennial service to the Class at its numerous reunions, and thanks, Dan, for reminding us of it!

Our Class President, D. W. Ederly, is also continuing the good custom, initiated by Van Lansingh, of sending letters to the Class. You have all received Class Letter No. 6. It is needless to comment at length in these notes on the interesting exposition of Educational M.I.T. contained in this last letter and which results from the careful study of the subject by our president and classmate. We will, however, comment on the letter of Gorham P. Stevens, enclosed with the presidential letter, especially as relates to the possibility of '98 standing behind his relief efforts. As many of you may have mislaid the letter, we quote, for the sake of a permanent record, that part of his letter relating to relief:

"The Alumni of the American School of Classical Studies at Athens have recently sent a number of boxes of used clothing for relief work in Greece. Would it not be possible for the members of the Class of '98 to do the same thing? It is fairly easily done. A box of used clothing should be shipped to the Near East Foundation, 54 East 64th Street, New York City, with instructions to send it to their representative in Athens, Greece, for distribution in Greece in consultation with Professor Gorham P. Stevens of the American School of Classical Studies at Athens. The box will be shipped to Greece free of charge, and distributed in Greece free of charge, by the Near East Foundation, a reliable philanthropic organization. A report of the distribution will be sent to you. If Greece goes communistic, the Balkans will blow up, and then the civilized world, including the United States, will be dragged in, with the attendant horrors of a major war. So, if possible, keep the hearts of the sturdy Greek peasantry of the north warm with your used clothes, and their morale high with the thought that people of the United States are thinking of them." How many have sent clothing to be distributed by Gorham?

Elliott Barker advises that he and Ernest Russ attended the midwinter meeting of the Alumni Association at Walker Memorial, February 1, 1951. Dean George R. Harrison, honorary member of '98, supervised several striking demonstrations of research, which were much appreciated, judging by the thunderous applause. The great event of the evening was the announcement by Chairman Marshall B. Dalton '15 that the \$20,000,000 Development Fund goal had been reached; in fact, had been oversubscribed! Pandemonium broke loose for a few minutes. President Killian warned that the Alumni should not sit back as though everything needful was now secured, for there would be many more problems in the future (which kaleidoscopic events since are making clear).

Horace Thayer from Cleveland, Ohio, writes, and we quote in part: "I was very much interested in Ederly's and Stevens' letters. What an education they are getting while working. It is so interesting to uncover relics of many years ago. I am Life Member, American Society of Civil Engineers; Honorary Life Member of Authors' Club of Pittsburgh, *Who's Who in the East*, *Who's Who in America*, *Who's Who in the Mid-West*. I have proofs for my name in 'Who's Who in the World.' I have written five books and about as much more in newspapers and magazines." Horace then advises that for some years he had dropped out of alumni activities, giving his reasons therefor, and then continues: "I did come on to the 50-year reunion, had a nice time and renewed old and very delightful acquaintances. Regards to one and all." Thanks, Horace, for the letter and also for the added testimony to the inspiration of the 50th reunion. What were the titles of the books? This would greatly interest your classmates and others in M.I.T. And, by the way, how many other classmates are hiding their light under a bushel? In the historic words of Priscilla, "Why don't you speak for yourself, John?" Or, bringing the quotation up to date, send a letter for the class notes.

Of the many interesting events during our vacation, we will mention two of special interest to the Class. We called upon the Blanchards at Lake Alfred, Fla., and upon the Babsons at Mountain Park, Fla. You will recall that Arthur suffered a severe shock last September while at his home in Brookline, Mass. The word "miracle" applies, as regards his recovery, the long trip to Florida and subsequent improvement; a remarkable testimony to the effect of great determination and will power on the part of our classmate and the untiring devotion and care of his wife. As we sojourned at Lake Alfred for several weeks, we were able to spend many pleasant hours with Arthur, sitting in the sun, anon settling the affairs of the world or watching shuffleboard games and bowling matches, or playing occasional games of bridge or accompanying him in short drives through the lovely surrounding lake country. When we left Lake Alfred in late January, Arthur was able to walk a considerable distance, unaided, except for the help of a wheel chair, which he pushed ahead as he walked. George Cottle, who called on the Blanchards about the middle of February, reports that Arthur then was walking with a cane. Marvelous! Cheers!

The Babsons spent the winter at their estate in Mountain Park. This is a privately restricted, wealthy, and unusually beautiful suburb of Lake Wales. It adjoins the celebrated Bok Singing Tower. There is a guard at the entrance to the park, but Roger's name proved to be an "Open Sesame!" We had a very pleasant visit at the Babson home. Toward the end, Roger remarked that he had recently purchased a *small garden* for Mrs. Babson which he would show us. So down the road we drove and presently came to a spacious entrance to what looked to be a considerable estate. On a chain between two posts, was the sign, "Chapin Gardens." "Your garden," remarked Roger

with a smile and a twinkle in his eye and a playful slap on the back. "Small garden!" My eye! It was a 10-acre estate with a residence as big as a European castle. It seems that it was formerly owned by one Chapin of Springfield, Mass., who sold it to Roger. Roger uses the residence as an office and library. He took us through the extensive gardens, which as yet were not generally in bloom, because of the time of year and the backwardness of the season. There was one notable exception, a large camellia bush, covered with pink blooms, in contrast to camellia bushes we had seen elsewhere, which were only budded. The office proved to be a spacious room, 15 by 20 feet, with a large work table in the center and other appropriate furniture. Adjoining was a living room about twice the size of the office. Roger remarked that his library consisted of 16,000 volumes, and that he is in touch with Babson Park, Mass., every day. This reminded us of Thomas Edison, whose laboratory at Fort Myers, Fla., we had visited a few weeks prior. Edison also lived and worked during the winters in the south and also kept in contact with his West Orange, N. J., laboratories. Thus, Roger sets us a good example of continuing activity. — Our thanks are also due to Henry Thayer, a pharmacist and cattleman from South Carolina, and a friend of Arthur Blanchard and of the Secretary, who courteously drove us over from Lake Alfred to Mountain Park, and who also enjoyed the call on the Babsons.

President Edgerly wrote that he was off for Mexico in March. Hope you had a pleasant trip, Dan, and tell us all about it at the '98 get-together in June. And all you '98 boys and girls note that Monday, June 11, 1951, is Alumni Day at M.I.T. Mark this date on your calendars and, if possible, show up! — EDWARD S. CHAPIN, Secretary, 463 Commercial Street, Boston, Mass. JOSEPH C. RILEY, Assistant Secretary, 9 Pond View Avenue, Jamaica Plain, Mass.

• 1899 •

George E. Holmes, II, of 144 Silver Street, Dover, N.H., died March 23, 1942, according to a notice received recently from the Alumni Secretary. Through the courtesy of one of his three sons, Nye E. Holmes of Dover, N.H., your Secretary is able to furnish the following additional information: George graduated from Phillips Andover Academy, Harvard and then came to M.I.T. Quoting from a notice in a local paper at the time of his death he then "began at the bottom of the ladder as a machinist in the Goodyear shops of the United Shoe Machinery Company and was soon advanced to the draughting and designing departments in the McKay shops of the same company. His remarkable genius and ability finally won him a position as Chief Draughtsman for the George P. Clark Company of Windsor Locks, Connecticut. He later was engaged as Chief Draughtsman for the Fletcher Works of Philadelphia and was later awarded the Chief Draughtsman position in the Kidder Press Company of this city and finally promoted to Chief Engineer, a position which he served faithfully and gainfully for the past forty years."

An excerpt from an autobiography from which his son, Nye, quoted, gives a remarkable insight into the character of our classmate: "The greater part of my life work has been devoted to the improvement of the printing press. Whereas I have neither expected nor desired anything even akin to renown through my efforts, nevertheless, if I produce a certain type of press, a higher production and a better quality of work, the satisfaction in the attainment itself will be ample reward."

The following story appeared in the Manchester, N.H., *Leader* for January 24: "Rep. Arthur L. Hamilton of Lisbon was sworn in as a member of the House of Representatives by Sen. Pres. Blaylock Atherton of Nashua — acting governor for the day. Hamilton, unable to be here for the opening of the Legislative session because of illness, is a member of the MIT class of 1899, while Atherton is a MIT graduate with the class of 1924." — Norman P. Rood, IV, formerly of the Sheraton, 19th and Walnut streets, Philadelphia, is now located at Balderas 36, Suite 901, Mexico City, D. F., Mexico.

Harry A. F. Campbell, II, died on February 26, according to an obituary in a Boston newspaper. He had retired as plant chief of the George E. Keith Company of Brockton, Mass., shoe manufacturers, only the week before. "From 1913 to 1924 he was European representative of the Baldwin Locomotive Works. From 1924 to 1933 he was plant engineer of Wickwire-Spencer Company of Palmer and had been with the Keith organization for 18 years."

Miles S. Richmond, IV, now has space in the same office with E. F. Tomlinson, '06, construction engineers at 201 Devonshire Street, Boston.

F. Minot Blake retired as vice-president of the Phoenix Insurance Company of Hartford, Conn., as of January 1. Quoting from *The New York Journal of Commerce*: "A graduate of... Technology, Mr. Blake entered the insurance business with the Underwriters Bureau of New England in 1902 and three years later joined the engineering department of the Phoenix in Cincinnati. He was called into the home office as a general inspector in the risk department in 1907, became superintendent in 1909 and was elected assistant secretary in 1919. He was elected secretary in 1928 and became a vice-president in 1936."

Your secretary has received a circular from Don Severance '38, Alumni Secretary, in which he says that all members of the Class have been receiving *The Review* since January of last year and will continue to receive it through the July issue even though some did not contribute to the Development Program Fund.

It is only natural that each of you turn first to learn what your classmates have been doing. But how many of you have taken the trouble to send your Secretary information about your own affairs. Very few. How about it, Ken Blake? You were an undergraduate class president. And you Al Nathan and Carl Milliken—just to mention a few who have not been heard from.

Here are a few class statistics: There are a now 166 living members of the Class

as compared with 181 at the time of the 50th reunion in June, 1949. The S's are most numerous with 26 and the B's next with 14. This is as good a percentage of living members to the total number graduated as any of the older classes. This indicates we were a sturdy class. We had to be to get from the top of Walker on Boylston Street to the top of the engineering building on Trinity Place in five minutes flat. — BURT R. RICKARDS, Secretary, 381 State Street, Albany, N.Y. MILES S. RICHMOND, Assistant Secretary, 201 Devonshire Street, Boston 10, Mass.

• 1900 •

Sufficient favorable replies to the Secretary's letter of February 14 have been received to warrant the final decision that we will have an informal reunion this year. Consequently, arrangements will be made with The Pines, Cotuit, Mass., to accommodate as many of us as will come, from Tuesday to Thursday, June 12 to 14 next. Anyone who was ever connected with the Class of 1900 will be most cordially welcome there during that time, together with his wife and any other members of his family. Our lady members of the Class will be equally welcome and are urged to come. Please make your arrangements for rooms and accommodations direct with the manager of The Pines, Mr. C. D. Crawford, The Pines, Cotuit, Mass. The Secretary will appreciate it if you will keep him informed regarding your plans but make your definite arrangements direct with Mr. Crawford. If you need transportation to the Cape, let the Secretary know and he will try to see that you are taken care of. So far, the following have signified their intention to attend the reunion: Atwood, Blair, Z. M. Briggs, Clarke, Delano, Fitch, Hart, Lawley, G. H. Leach, Leary, Richardson, Russell, C. E. Smith and Ziegler. These 14, together with their guests, will be enough to make a very good reunion but we hope that many more will find that they can come when the time arrives.

The replies to the class letter yield small bits of news. Bob Blair wrote from Florasota Gardens, Sarasota, Fla., that he expected to leave there April 1 and return to Broad Brook, Conn. Z. M. Briggs says: "I expect to return east for June and July this year. June 12 at The Pines seems all right."

T. W. Brigham says: "As things are at the present time, and much as I would like to advise that you could count on me as one who would be present, Mrs. Brigham's health is such that we do not feel we should attempt to consider attending a reunion this year. If, at the last moment, I feel we can change our plans and be with you, I am sure that we both would enjoy very much attending another reunion."

From Delano: "Thinning ranks make each reunion we can have a 'last roundup' for an increasing number of our classmates, so let us have one in each year when possible. Mrs. Delano and I had a delightful time at Cotuit last June and we would be happy to go again this year." Clarke writes: "Last year, with the best of intentions, I found Rhode Island State College had class day when I should have

been with you on Cape Cod. Some time ahead they had persuaded me to write one of those dear old Siwash letters telling why all should return. There it was, sent to every alumnus, and I would have felt like the present American dollar to have preached salvation and then not to have practiced it. What may turn up this year, Lord knows, but I would like to see the few men still living I knew back in the ancient days. So, if you will advise me what the plans are I will try to be a good boy this year and show up."

From Fred Everett: "I am so done up with arthritis I am quite sure I couldn't make the grade. I certainly enjoyed the big reunion last year and I thought at that time I would be on deck the next time." And from Hart up in Montreal: "We had a good time last June and as we have some visits in Massachusetts which we should make, we can probably join the two." Bob Leach says: "I regret that Alice and I are planning on leaving here about June 1 for Seattle, returning probably in the early part of September."

From H. L. Morgan: "As you may remember, I have not walked alone for over two years, as the result of a spinal operation. Even at 75 plus, I am improving all the time and hope to walk again by summer. Unless you are unable to get about, as I am, you do not realize how much you miss these events. It was a great disappointment to me to miss the 50th but I am glad so many could make it." And from Tom Perry: "Mrs. Perry and I are toying with the idea of the celebration at Eastham in August, which concerns our family colonial shrine, and it will be the only Cape excursion that we can manage, and that is 50 per cent doubtful. Sorry that we cannot be counted 'in,' but our activities are far less strenuous than of yore." And lastly, Charlie Smith says: "We are flirting with the idea of a trip through the southwest in June when Mrs. Smith wants to attend two garden club conventions there. If that eventuates, I cannot be with you."

A letter from the Hudson Trust Company, executor of the estate of Alexander Phillips says: "We are sorry to say that our good friend Mr. Phillips passed away in Paris on August 9, 1950. His loss was keenly felt by all of us who knew him so well." Phillips graduated from Harvard in 1897 and was with us in Course IV in our junior year. He has been engaged in architectural work in New York City. — William H. Wedlock died on January 3, 1951. He graduated with us from Course I. He was with the Public Works Department at the Navy Yard in Charlestown for approximately 40 years but retired a few years ago. In addition to his professional work, he was an accomplished organist and held that position at the First Congregational Church in Braintree, Mass., for 25 years. He was a member of the Organists Guild and the Choir Guild. Mrs. Wedlock was also musical and was Choir Mother for his choir. She died in February, 1950. They left no family. — We have also received word of the death of Jennie K. McMaster of Crafton Heights, Pittsburgh, Pa., on December 26, 1947. She was with us at the Institute in the architectural course, but only for a short time.

Charles J. Bacon has changed his address to 405 Samarkand Drive but remains in Santa Barbara, Calif. He writes regarding the reunion: "For me to go this distance is merely wishful thinking but sometime I hope I'll be near enough to Boston in June to see you again and possibly attend a reunion."

We have just learned that the copy for the class notes for the April issue of The Review was somehow lost in transit and, consequently, that issue has no notes for 1900. We hope that this will satisfactorily explain the apparent dereliction of your Secretary. The notes that should have appeared in the last issue are as follows.

The Technology Review is now being sent to every member of the Class irrespective of whether or not contributions have been made to the Development Program or the Alumni Fund. This is a very gracious act on the part of the Alumni Association and one which will be greatly appreciated by all the Class. It will give us an unusual opportunity to communicate with all the class members. We hope that it will develop an increased interest in class news and induce many to send to the Secretary items regarding themselves and classmates with whom they come in contact. Only in this way can we make the class notes interesting. Specifically, cannot we hear from members of the Class whose names have not appeared in the class notes for a long time? Taking at random some names that have not appeared for at least 20 years we find: Badlam, Baldwin, Borden, A. B. Briggs, J. W. Brown, Clausen, Cleveland, Dutton, Fulton, Gladding, Hamlin, Hopeman, Keay, Knight, Leonard, Rapp, Seaver, Simpson, Suhr, Suter, and a host of others. This list is not published with the intention of excluding anyone whose name is not given. It is simply typical. We would like to hear from you all whether your name is included or not.

The midwinter alumni meeting was held on February 1. It was a stormy day and the driving was terrible. But five of the Class and two guests braved the storm and were rewarded with a splendid program. Those present were Fred Lawley with his son George, Charlie Leary and son Jack, Chester Richardson, Bill Jackson and the Secretary. Fred and Charlie enthusiastically agreed that they will be very happy to attend a reunion in June. Jackson tells us that his son Robert is now assistant professor of military science and tactics at Boston College. He has recently been submaster at the Angier School in Newton.

Our sympathy is extended to Louis Crowell for the loss of his mother who died recently at the age of 98. He was very fortunate in having her with him for so long a time. We suspect that she must have been the last of our class mothers to survive. — ELBERT G. ALLEN, *Secretary*, 11 Richfield Road, West Newton 65, Mass.

• 1901 •

These are the last class notes before the big time in June and I ask you all to read carefully the information here given. At this time of writing (March) comparatively few replies have been received an-

swering questions about the reunion. I hope that when you read this all those who are coming will have replied. If you have not, please do so immediately as we must have a reasonably accurate idea as soon as possible of the number to be at Oyster Harbors. The Class will march in a body in the commencement procession and will sit on the stage. We must have a good showing, so every one who is coming who can should plan to be in Cambridge on Friday morning June 8. Caps and gowns will be worn and these will be furnished without charge. You will receive a notice from the Alumni Office asking for your hat size, height and weight so that an outfit may be ready for you. Further instructions will be sent concerning the procedure in Cambridge and at Oyster Harbors. Your committee is doing everything possible to make this occasion all that it should be. Show us that it is appreciated.

Bob Williams sent me the following notice just too late for our last notes: "Just before Christmas I closed up my house in Chestnut Hill and came down to North Haven, Conn., to spend the winter with my daughter. As I cannot carry on efficiently in Boston from here, as general reunion chairman, I have resigned. I dislike to give up the job before completing it but as things are it seems best to do so."

Bob Derby, chairman of the Williamstown, Mass., Dutch Elm Disease Control Committee, on February 5 spoke, at Horticultural Hall in Boston, before the Massachusetts Tree Wardens' and Foresters' Association on Dutch Elm Disease Control committees in the towns. It is said that Williamstown and Plymouth are outstanding in Dutch Elm Disease control largely owing to the work of the advisory committees in these places.

I reported in the class letter the death of Clayton Albiston in Pawtucket. The following is taken from a New Bedford paper: "Clayton Albiston, 77, architect and civil engineer and a member of many Masonic organizations, died suddenly [December 21] at his home, 641 East Avenue. He was the husband of the late Mrs. Alice J. (Johnson) Albiston. A native of New Bedford, he was graduated from New Bedford High School in 1893 and from M.I.T. in 1901. A resident of Pawtucket for the last 50 years, he was a member of the Pawtucket Congregational Church. Organizations of which he was a member are Jenks Lodge, AF and AM Pawtucket Council No. 2, Pawtucket Royal Arch Chapter No. 4, Holy Sepulchre Commandery No. 8, Knights Templar and Palestine Temple, Nobles of the Mystic Shrine of Providence. He leaves a son, Roger C., and two grandchildren all of Pawtucket."

I have a letter from Roland Simonds. He says: "I have not much to write for the Class since I retired. Find plenty to do about the house and at my son's place. Also spend some time on civil defense. Taking a refresher course in Red Cross first aid and active in the auxiliary fire department of the town. Have been enjoying good health and do not feel as old as my years in spite of the fact that my hair is getting gray. Often think of the many happy times we had together in the good old days. Am enjoying my retirement but

still keep my hand in by inspecting the public buildings in the town occasionally. Visited with Roger Wight and his wife several times last summer when my wife and I were on the Cape in Dennisport. Expected to go back there this summer but plans have changed since my wife passed away last winter. Expect some day that my grandson, who is 16, will go to M.I.T. if he can make the grade. Enjoy reading the 1901 news in *The Review*. In fact, it is the first thing I look for when I receive the magazine. Hoping to see you some day and please remember me to the boys."

In response to a letter to Fred Sexton of Nova Scotia asking for news of himself, I have received the following: "There is nothing but homespun in the tale of my retirement and subsequent adjustment to the role of almsman on a government pension. Before crawling out of the harness or robes of active life as president of a small engineering college, I had resolved to detach myself completely from the environment of my duties and to take up my abode in the same kind of small town in which I had been raised in Massachusetts. It had been my constant belief that the town with from 1,000 to 5,000 persons offered the most satisfying social life in the world, no matter what the country. This unit is the rock on which national strength is founded and this the place where personalities naturally expanded themselves to the limits intended at birth. I wanted to live in a place where the fundamental social atmosphere was neighborliness, where democracy rated everyone at his or her true worth and where everyone was well enough known so that the rating could be made to the last hundredth of a per cent. That is why I retired to the little University town of Wolfville in the heart of Evangeline land in the fertile Annapolis Valley. It is fun to go to the post office and wait for the mail to be distributed while you talk weather, crops, politics and fishing with the rugged individualities who assemble at the same time for the same purpose. It is a satisfaction to know that you are missed if you do not occupy your pew in church.

"Then there are pruning, fertilizing, spraying and harvesting. This means I do almost all the work myself. I have developed deep sympathy for the orchardist who has to depend on this form of agriculture to buy the baby's shoes. I have a small home garden and a generous expanse of lawn. I have come to learn that one of the hardest things to grow is grass; i.e., in the pure state such as is found on the greens of golf links. I am becoming expert in the handling of the multitude of hormone sprays for weeds in lawns, but the perfect one is yet to be developed. The trouble with gardening is that the busy season corresponds exactly with the time for trout and salmon fishing. This trouble is partly averted by giving the garden a good push and hiring someone to keep it free of weeds for a while when one goes angling. I spend a month fishing for salmon in Newfoundland. This is the high spot of the year. In the winter when about the only outdoor activity is shoveling snow, my wife and I pack off to Florida. This is to maintain our supply of Vitamin D without taking pills. Photog-

raphy is pursued as a tertiary activity all through the year. I am still active in some committee work connected with education, scientific research, association of professional engineers, UNESCO, vocational training and some minor matters. In general I am glad to state that my health is better today than it was 10 years ago. Recently, I became a convert to Dr. Hanser's Yoghurt program of diet and expect to become the despair of the government authority which pays my superannuation. I am glad that one requires less sleep as one gets older because the daylight hours are not enough. I recommend retirement to anyone as soon as he can qualify for it after the age of 25."

I have just received word that Joe Evans has returned to Nebraska. His address is Box 32, Elmwood Park Station, Omaha 6, Neb. — THEODORE H. TAFT, *Secretary*, 21 Cypress Road, Wellesley Hills 82, Mass. WILLARD W. DOW, *Assistant Secretary*, 287 Oakland Street, Wellesley Hills 82, Mass.

• 1902 •

Henry O. Trowbridge, II, died on January 28, 1951, in Mamaroneck, N.Y., where he had resided since his retirement in 1946 as consulting engineer at the Bath Iron Works Corporation. Since 1947, he had been in New York as United States general representative and chief surveyor for Bureau Veritas, an international organization in the interest of maritime underwriters for surveying and rating of vessels, with headquarters in Paris. Trowbridge began his career shortly after graduation as draftsman with the old Bath Iron Works, Ltd., but much of his professional life was spent around Boston. He was with the Boston Navy Yard as engineering draftsman and designer for 11 years. He later was marine superintendent for John S. Emery and Company and the Shawmut Steamship Company before going with the Emergency Fleet Corporation in 1917, where he was district officer, District Number One, covering shipbuilding in the New England area from the Canadian line to Rhode Island.

In 1919, he became naval architect and chief engineer for the Groton, Conn., Iron Works. Three years later, following a period of special design work for the Army in Boston, he became marine superintendent of the Southern Transportation Company of Philadelphia, which company operated a large fleet of vessels and also owned and operated two shipbuilding and ship repair yards. In 1928 he went to Bath as chief engineer of the Bath Iron Works Corporation and was appointed consulting engineer in 1939 and so remained until his retirement in 1946.

Trowbridge took an active part in many professional and community affairs. He was a member of the American Society of Naval Architects and Marine Engineers and had served on the Maine State Board of Registration for Professional Engineers. He is survived by his widow, Mrs. Virginia Trowbridge. The funeral services were held in Newton, and among the many friends and business associates who attended were John R. Newell '34, President of the Bath Iron Works and G. Baer Connard '25, assistant to the president; and Dan Patch representing our Class.

Some of the Class will remember that Frank Robbins could not attend our last reunion as he had just become secretary of the Pennsylvania Department of Public Assistance. On January 16, he retired to private life. The following is taken from the Harrisburg, Pa., *Evening News* of that date: "Frank A. Robbins, Jr. ended a remarkable period of service in the public assistance field today when he turned over duties of his office as secretary of the Pennsylvania Department of Public Assistance. Mr. Robbins, then general manager of the Steelton plant of the Bethlehem Steel Company, became a member of the original Dauphin County Emergency Relief Board in the early '30's. When that unit was superseded, he became chairman of the Dauphin County Board of Assistance. Next he was named to the Pennsylvania Board of Public Assistance in 1939, and soon was its chairman. He left that position to accept Governor Duff's offer of a Cabinet place, just a few months after he retired as general manager of the Steelton plant. The retiring official aimed, without regard to demands on his energies, to give a clean, honest and efficient administration. His four-year tenure has been distinguished by visits to every one of the sixty-seven county offices and by personal conferences with all sixty-seven local boards. He has, it has been said aptly, attempted to strike a happy balance between needs of relief recipients and the tax support available. Associated with the Steelton plant more than four decades as general manager and otherwise, Frank Robbins has been a good citizen. Hospitals, Community Chest, Red Cross and numerous other projects have benefited from his energies, abilities and interest. As he retires to private life, he can well have satisfaction at having performed an exacting job remarkably well."

Plans for the 50th reunion are progressing and a meeting of the heads of the various committees was held previous to the midwinter meeting of the Alumni on February 1. Several were unavoidably absent but matters were considered tentatively after which all went down to the Commons dining room in Walker for dinner and entertainment. Those present at the class table were Arthur Hall, Fred Hunter, Dan Patch, Doc Williams, Bill Bassett, and self. — BURTON G. PHILBRICK, *Secretary*, 246 Stuart Street, Boston 16, Mass.

• 1903 •

Several good letters have come to your secretaries during the past month. One dated March 2 from Mitchell, VI, who has been working on the Development Program, states that he "had a very pleasant visit with Frank Reed and his wife while in Miami. He was just getting over a rather serious illness and was not getting out at all, while I think that since then he has improved." In February, George Huntington Clapp, I, wrote of his trip across the country, between San Pedro, Calif., and Boston, to attend Alumni Day last June, and his pleasure at seeing a number of the Class at that time. After he returned to his home in San Pedro, his wife died very suddenly, and the natural shock he sustained has been hard to get

over. The sympathy of the Class is extended. He hopes to be able to get some of the Class in southern California together this year.

A grand letter has been received from Hewitt Crosby, XIII, which we quote: "M.I.T. 1903 was represented at luncheon at the Bahia Mar Yacht Club by five of our classmates on February 26 as follows: Tom Sears from Hillsboro, Regestein from West Palm Beach, Frank Cox from Coconut Grove, Frank Reed from Miami, and Hewitt Crosby from Lauderdale by the Sea. In addition, we had greetings from Charlie Chase from St. Petersburg, Will Lounsbury from Ft. Myers and Edward Chadbourne from Pensacola—leaving only two of your list of Florida residents unaccounted for; namely, Rappin Gainesville and Lund in Melbourne. Also had a greeting from Scott Morse who had hoped to be in Florida but could not make it. Now that he has retired, he is running true to form. He's active in public affairs and is president of the city council. So, he felt he could not leave Indianapolis this winter. Chadbourne in Pensacola is 683 miles away so it would hardly be expected that he would make the trip for a luncheon. The same applies to Lounsbury and Chase who are on the west coast of Florida. All, however, showed keen interest in the get-together. We met at the delightful Bahia Mar Yacht Club where we could sit out in the open and enjoy the sunshine, the view, and our reminiscences. The talk ranged from our experiences at the old M.I.T. in Boston to the feats of our grandchildren, of which there are too many to enumerate. All except Sears are retired and have learned to relax. None are idle. With civic, charitable and educational activities, each man is a useful citizen. Some are actually busier than before retirement. Their faces indicate that they are happy despite the fact that all are concerned with the future of the good old U.S.A. which has done so much for all of us and has developed so tremendously within our lifetime.

"As usual, we discussed classmates whom we have seen from time to time. The amount of ground covered was surprising. Travel appears to be a favorite occupation. Some of us, in fact, have visited every state in the Union and some foreign countries. Best of all, the children and grandchildren are carrying on in the tradition of 1903. When we finally broke up late in the afternoon, it was agreed that we get together again next year. Although the Floridians have complained about the 'cold' winter, we have been very comfortable. Lots of sun and plenty of good swimming. In fact, we like it so well here that we are thinking of making this area our permanent home." Hewitt enclosed letters from Chadbourne, who warmly greeted the others and expressed his sorrow that he could not be with them, and from Chase who wrote to Hewitt as follows: "Your kindly note was received here today and with the pleasant associations of 45 to 50-odd years back it seems on the much regretful side that we cannot reunion hereabout on Monday next. I came approximately 1,300 miles to this lively city of retired, contented white-haired malingerers, stymied by old TIME;

and we feel that under the current circumstances further movements are impractical. We have our share of good fortune and seem ingrates to ask more. After all, the memories sweet, and the goodwill mutually expressed seem all we should expect."

Myron Clark (I wonder if there are any more active men in the Class, than he) was the speaker for the Norwich, Conn., Foremen's Club in January, speaking on "Human Relations." With all Myron's talks on human relations, employee management, and so on, it seems as though that part of New England covered by him ought to be a co-operative, peaceful and harmonious section. — On January 19, Eugene D. Forbes, VI, died at the home of his brother in Yarmouth, Maine, after several years of ill health. He was born in Sherborn, Mass., and graduated with us. Following graduation he served as instructor and associate professor at the Institute for several years. During World War I, he worked on the development, design, manufacture and installation of radio apparatus for the Navy, and directed the installation of radio apparatus on many ships in the Navy. Later, he became a consulting radio engineer. He had made his home with his brother since 1937. He was not married.

By the time you read this, you should be thinking about Alumni Day, and coming to Boston. We wonder how many of you are interested in having an informal class reunion during the week end of June 8? The secretaries would be thrilled to hear from class members about this. Let us know where, when and how you want the day handled. — FREDERIC A. EUSTIS, *Secretary*, 131 State Street, Boston, Mass. JAMES A. CUSHMAN, *Assistant Secretary*, Box 103, South Wellfleet, Mass.

• 1904 •

Another edition of class notes is due and as usual not much to report. Only one member of the Class showed up at the midwinter alumni meeting. It was a little stormy and the decrepit members of '04 couldn't take it. — Harry Groves retired on December 31 from his position with the Interstate Commerce Commission. The announcement of his retirement speaks in the highest terms of Harry as "one of their best loved and respected associates." It further states: "It can honestly be said that Harry is a gentleman and a scholar whose spot in the hearts of his friends in the Commission cannot be filled by anyone else, and their love and affection will be with him always." That is surely a statement to be proud of.

Frank Milliken who now makes his home at Centerville on the Cape, was in Boston recently. He looks to be in the pink of health and is enjoying his retirement. Not long ago while in Washington he was a guest of Harry Groves at the latter's home at Silver Springs, Md. Frank says Ed Hiller lives not far from him in Centerville and they get together now and then. Hiller is having some fun working on some mechanical gadget applicable to the fishing industry. Ed Parker still keeps his interest in the Guild for the Hard of Hearing and is doing a worth-while job

there in a volunteer capacity. An attempt to find Mark Magnuson in New York failed. He had probably flitted to warmer climes.

We have frequently quoted from press notices regarding Herb Kalmus and now we can supplement them with two items of firsthand information. Gus Munster met Herb on a train between New York and Boston and had the additional pleasure of meeting the charming Mrs. Kalmus. They had a fine time talking over old times. Gene has also met Herb twice recently once in Boston and once at his sumptuous offices in New York. Herb's time is divided among his offices in Hollywood, New York and London with time out when possible for good old Cape Cod where he maintains his legal home and voting address. Gus and Gene were pleased to see Herb looking so well and still enjoying his work as high boss of Technicolor. The December number of *Technicolor News and Views* shows Herb presiding at a press conference in which he looks the part of a big executive.

A welcome letter has come from Henry Stevens who is getting along well at the Whitney Homestead, Stow, Mass. The letter sounded like Steve at his best and suggested that letters and calls from '04 men would be welcome. He had received a note from Tammy Rockwood to the effect that he (Tammy) had retired and gone to Florida to take life easy but had received an attractive offer of a new job and had decided to go back to work. Don't work too hard, Tammy, we are getting old.

We regret to have three deaths to report: John Rapier, VI, at Mobile, Ala., Russel Ray of Lemon Grove, Calif., and John Roland at Montreal, Quebec. No details are available in any case. Rapier was a well-known member of the Class. Roland came to us after getting a degree from Acadia College, Wolfville, Nova Scotia. He is survived by his wife. — EUGENE H. RUSSELL, JR., 82 Devonshire Street, Boston, Mass. CARLE R. HAYWARD, Room 8-109, M.I.T., Cambridge 39, Mass.

• 1905 •

By vigorous use of the corkscrew and a threat to invent scandals, we have news from a few classmates, who have not been heard from for many years. One of these is W. H. Crowell, IV, who writes from his home in Portland, Ore., as follows: "Now that you have used Cape Cod for bait you are entitled to a 'rise.' I was at Technology only two years as a 'Special' in Course IV, and needing to list me somewhere they attached me to '05. I did not graduate. Being an old man, (74 in a few days) I am tempted to write a life history, but maybe I'd better stick to your suggestions. Wife and I came out here in '08, I to work for Morris Whitehouse who was an '05 architect. He died a few years ago. Our three children were born here, all are married and there are six grandchildren, three boys and three girls. One daughter lives in Chehalis, Wash. Son is entomologist with the Experiment Station, Oregon State College at Corvallis. Other daughter lives in San Francisco

where her husband was office manager for United Press. He was transferred to the Tokio office when Korea got in the news last summer and is still there. We had the whole crowd here for Christmas except the Tokio husband. It was very lively. Wife borrowed a bedroom across the street so we could have a 'haven of rest.' Probably you know there is a new dean of Architecture and Planning at M.I.T., one P. Belluschi from Portland, Ore. I was associated with him for over 20 years, first as draughtsman in the office of A. E. Doyle, and later as partner. I sold my interest to him about nine years ago but stayed on in his office under special arrangement until two years ago. Now I am retired and enjoying it. Made a three-month trip east last fall, spending six weeks on the Cape in my old home. I have a brother and other relatives at East Dennis."

Another is Asa H. Nuckolls. His letter-head says: "Consulting Engineer, Post Office Box 607, Wheaton, Ill." Apparently Ace served the Underwriters Laboratories in the capacity of chemical engineer (being in charge of the chemical development of high explosives) for most of his time from graduation until 1948, when he was retired but retained as consultant until 1950, when his health caused a still further business retrenchment. Since then he has operated "on his own," consulting on fire and explosion as a registered professional chemist. During World War II, he served the Ordnance Department, Safety and Security Division, under Colonel Field and Colonel Niles, giving lecture demonstrations on explosives to graduating classes of safety auditors. Nothing further in regard to his family, but he does request that those of his classmates who remember him write to him at the above address.

Fred W. Simonds, I, writes from 146 Morris Circle, Edenton, N.C., that he retired from consulting practice about two years ago "but it didn't take as I am back in the consulting game again, with Buck, Seifert and Jost of New York City. Expect to move to Concord, Mass., about April, 1951, and hope to work in Boston. Married 43 years, two married daughters (one recently deceased), seven grandchildren." At the recent town meeting at Cotuit, Mass., Bill Ball was elected to the board of water commissioners. Bill has purchased Kenneth Roberts' new book on "water dowsing" and is busy locating veins of water under Cape Cod with his crooked apple crotch. Speaking of Cape Cod, we will hold our 46th reunion at East Bay Lodge on June 15, 16 and 17. Details later, but arrangements have been made for those who may wish to arrive a few days early or stay beyond the 17th.

Scott C. Runnels, VII, whose address has been lacking for some time, is reported as deceased on January 1, 1950. The last address we had showed him as attached to the Station hospital, Camp Patrick Henry, Newport News, Va., during World War II. I remember Scotty as I visited Sigma Alpha Epsilon House about 1903 with my cousin Lee Faulkner Goldthwait (since deceased). He left before

graduation to enroll at Indiana Medical College, where he received his medical degree in 1907. In 1908 he got the same degree at University of Michigan Homeopathic Hospital. In our Ten Year Book he wrote from Little Rock, Ark., where he was practicing and expected to make his permanent home. Since that time we have had very little word.

The Boston Sunday *Herald* of March 18 had a very brief notice of the sudden death of Mrs. Thomas N. Hepburn (Katherine Houghton, IV) at Hartford, Conn. She was a state leader in the Planned Parenthood League, perhaps better known as the mother of Katherine Hepburn. — FRED W. GOLDTHWAIT, *Secretary*, 274 Franklin Street, Boston 10, Mass. SIDNEY T. STRICKLAND, *Assistant Secretary*, 69 Newbury Street, Boston 16, Mass.

• 1906 •

Seven members of the Class attended the midwinter meeting of the Alumni Association held on February 1. They were Bellamy, Guernsey, Hinckley, Hoefer, Kasson, Rowe, Wight and the Secretary. A newcomer to the group was A. M. Bellamy, V, who advised he had been doing work at the Institute. His daughter Christine is in the New York office with the International Association of Women Voters and she has been selected as one of the delegates to represent this country at a meeting to be held in Athens, Greece, this summer. George Guernsey was accompanied by his son-in-law, A. I. Heckbert, who is teaching at the Institute and at the same time getting an advanced degree.

The Secretary displayed folders of Snow Inn, the scene of our 45th reunion and most of those present said they planned to attend. By the time you read these notes the reunion will be only about one month away. Remember, Alumni Day is to be held at the Institute on June 11 and our reunion will be held at Snow Inn on the 12th and 13th. Those who have attended previous reunions need no reminder of the enjoyment which is to be obtained by meeting again with the members of the Class. To those who have not attended previously, by all means make an effort to be there this year. At this reunion we should begin to think about our 50th reunion which is the all-important event in class history. This coming June will be none too early to discuss plans for the 50th in 1956.

The Secretary and Mrs. Kidder acknowledge cards from many of the classmates. Terrell Bartlett included a note on his, portions of which read as follows: "I have had a busy year getting my affairs in shape. We have been in our new house since May and it just suits us. Not pretentious but planned for our climate with sleeping porch, which we have not had for many years past. Hope to make the June 45th reunion. — The Secretary dropped a line to Otto Blackwell congratulating him upon the award of the Edison Medal as covered in the February notes. Otto replied as follows: "Many thanks for your kind letter of December 27. Until I received the official notification

of the medal award, I did not know that anyone had ever mentioned my name in that connection — nor did it ever occur to me that anyone would. I can assure you that my advocates were very able people. I plan to be present at the reunion next June. Think I haven't missed any for many years."

Under date of June 30, received another note from Jack Norton as follows: "Have made another move — I hope the last one we will ever make. We bought 98 acres of land on the side of a mountain near Tryon, N.C. This includes a vineyard and a small business of the mail order variety, enough to keep me out of any serious mischief. Am planning to be on Cape Cod in June." — Received a letter from E. B. Bartlett regarding the reunion and he advised he hoped to attend.

The Secretary regrets to report the death of George H. Buckingham who died at Brandon, Vt., on December 18. A clipping from the Rutland, Vt., *Herald*, reads as follows: "George H. Buckingham retired government architect died suddenly at 7 o'clock tonight at his Pearl Street home. He was 70 years old. Mr. Buckingham entered government service as an architect in 1909 and was one of two architectural designers in the Office of Supervising Architect, US Treasury department, at the time of his retirement in October, 1942, when he moved to Brandon. He was a graduate of . . . Technology and held BS and MS degrees from that institution. He was born in New London, Conn., February 12, 1880, the son of the Rev. William B. Buckingham, who became rector of Trinity Episcopal church in Rutland in 1885. His mother was Margaret Webster Buckingham. Mr. Buckingham is survived by his wife, Helen Janet Ripley Buckingham, and one sister, Mrs. John H. Nichols of Boston. His only son, Capt. Ripley Buckingham, was killed in action in China in 1944."

Will see you at Alumni Day and the 45th reunion at Snow Inn. — JAMES W. KIDDER, *Secretary*, 215 Crosby Street, Arlington 74, Mass. EDWARD B. ROWE, *Assistant Secretary*, 11 Cushing Road, Wellesley Hills 82, Mass.

• 1907 •

In the Boston Sunday *Post* of February 18, 1951, was a rather long story telling about the activities of our Class President, Alexander Macomber, especially those relating to the work which he has been doing for some time as chairman of the board of the Northeastern Gas Transmission Company, a concern which has already been granted a franchise by the Federal Power Commission to bring natural gas into a large part of Massachusetts and Connecticut and eventually into the Manchester, Nashua, and Concord areas of New Hampshire. Mac is quoted in this article as having said that natural gas will be flowing into some parts of Massachusetts by November of 1951. This is a \$25,000,000 project, which due to the foresight of Mac and his associates is practically assured of completion regardless of a possible speeded-up defense program, inasmuch as most of the steel pipes nec-

essary for the work are already in storage in Massachusetts and practically all of the necessary rights of way through the territory where the pipes will be laid have been secured. The company is maintaining an office in Springfield, Mass., where more than 300 people, chiefly draftsmen and surveyors, made sure that beginning in April everything was in readiness for laying the pipe lines, one through Connecticut and the other through the Mohawk Valley.

At this point it may not be amiss to say that on last February 21 Mac spoke to a group of men constituting the Men's League of the United Presbyterian Church in Whitinsville regarding this project. He came at my personal invitation, and it was interesting that in the relatively small village of Whitinsville, Mac, Phil Walker, and I, all officers of our Class, should all be present at a church gathering where Mac was the honored guest. Gene Banfield of our Class also was present at this gathering.

Mac maintains his office at 110 State Street, Boston, and is constantly busily engaged in consulting engineering work in addition to his activities as indicated above. He is a member of the Boston Port Authority and is also president of the board of trustees of Franklin Technical Institute of Boston, a school that was founded by Benjamin Franklin, at which presently there are something like 1,800 students. He maintains his very active interest in affairs pertaining to the Institute and also to those relating to Alpha Tau Omega fraternity. He and his wife own and live in a 14-room house on Marlborough Street in Boston. Mrs. Macomber is active in community affairs, and they find time to do a large amount of entertaining. Since 1920 Mac has held the following official positions in various corporations: Director and president of the Nantucket Gas and Electric Company; director and president of the Portland Gas Light Company; president of the Manchester Electric Company; president of the Gas Service Company; serving five communities in New Hampshire; president of the Association of Massachusetts Gas Companies; president of the Citizens' Gas, Electric and Power Company; president of the Westbrook Gas Company; president of the Kennebec Wharf and Coal Company; managing director of the Community Public Service Company of Fort Worth, Texas; and chairman of the board of the Northeastern Gas Transmission Company.

A letter from Frank MacGregor dated January 18, suggests that a new trend might be started in our class notes. He writes: "Ever since 1907 we have all been interested in what each was doing in a business way. Now there will be more and more of us retiring from business life and it would be interesting to know what some of us are doing with retired life. The January Review has just arrived and as usual I turn first to the '07 class notes, then read The Review later on as time permits. I note that we have quite a few additions to the retired list and this prompts me to get going on this letter."

"It hardly seems possible that three years have passed since retiring, the time

has gone so quickly and pleasantly. Have always wanted a small water power to play with and after some search found an abandoned site with old stone house built in 1732 in considerable disrepair and old mill foundations nearby. Had restored the old house back in 1942 but the power project had to wait till I had plenty of time.

"Now the little hydroelectric plant heats the house and power is ready for new projects. Financially, of course, the project was totally unsound but the dividends in pleasure have been ample. Dug out my freshman drawing instruments and drawing board, a handbook or two and started in to be a civil, hydraulic and electrical engineer! Borrowed a transit and did my own surveying of the pipe line (two feet diameter) and turbine base. Got a little crew of four or five men and acted as water boy, foreman, designer, engineer, surveyor, and so on, working two days a week. Only complaint on the laborers was the fact they would get to work at 8:00 A.M. when 9:00 A.M. would have been a much more suitable hour in my opinion.

"Had not touched directly any construction or engineering since 1916 so I had a lot to brush up on—anyway 'toy' worked and I can see the kilowatt hours roll up on the secondhand meter and no bills to come in, capital cost all charged off. The little power house nestles down in the old mill walls—the old mill building gone long ago—and the hum of the plant sounds just like one of those 50,000 kilowatt generators in a T.V.A. plant!

"In other time, I spend a lot in my shop, power tools, and so forth, but not as elaborate as the one our friend Peabo had in Dedham, Mass.—he really had himself one. Bought an organ—not electronic—and doing some practicing; but am positively no musician!"

Prime Minister St. Laurent of Canada announced on March 23 the appointment of Trade Minister Clarence D. Howe as Canada's new minister for defense production.

Since preparing the notes for the April issue of The Review, I have learned of the deaths of three of our classmates. Raymond Ware, who was a graduate with our Class in the Course in Naval Architecture, died on January 22, 1951, according to a notice in the Boston *Herald* of January 24. I have never heard directly from this man since 1907 but understand that he was an aeronautical engineer and inventor. I know that in 1940 he was associated with Thomas Morse Air Craft Corporation of Ithaca, N.Y. His address at the time of his death was 37 Hamilton Street, Hamilton, N.Y. He leaves two daughters and three grandchildren.

Through the M.I.T. Alumni Office, I learned of the death of Robert E. Thayer, which occurred on February 25, 1951. This was rather a shock to me personally because while Bob has never attended any of our class reunions and I have heard from him directly only occasionally during the past 40 years, I have known him ever since he and I were small boys, as we grew up together in the city of Chelsea, Mass., and I knew him not only at the Institute but also through grammar and high schools. As the result of my writ-

ing a letter to Simmons-Boardman Publishing Corporation at 30 Church Street, New York City, I received a letter from one of the editors associated with that company from which I quote: "On Sunday evening, February 25, at about 8:10, Bob's car left the road at a grade separation highway crossing on the Hutchinson River Parkway, collided with or jumped a parapet, went over the bank, collided with a tree, and turned over. When reached, Bob was dead. The report of the autopsy gave the cause of the death as arteriosclerosis, advanced by a coronary occlusion. It would seem that death may have preceded and been the cause of the accident to the car. No other person was involved in any way. Bob had been out with a group of six other men, of whom I was one, for an outing repeated annually for many years. After dropping me at my home in Ridgewood, N.J., he was proceeding on his way home when death occurred. While he had not been feeling too well recently, I saw nothing during the Saturday or Sunday which would indicate any unusual health condition." Bob graduated with our Class in the Course in Mechanical Engineering. He became an apprentice with the American Locomotive Company, and then was an instructor in Mechanical Engineering at the Institute. He became associated with the Simmons-Boardman Publishing Corporation in 1911 as associate editor of the *Railway Age Gazette* (now *Railway Age*). In 1917 he was appointed mechanical department editor of *Railway Age* and managing editor of *Railway Mechanical Engineer*, and in 1919 was made European editor of *Railway Age*, with headquarters at London, England. On his return to this country in 1922 he was transferred to the sales department and in 1929 became business manager of *Railway Mechanical Engineer*, a position he held until 1947. In 1937 he was elected a vice-president of the company. He was business manager of the *Locomotive Cyclopedia* and the *Car Builders' Cyclopedia*, both published by Simmons-Boardman. He was a member of the American Society of Mechanical Engineers. Bob and his wife lived at 49 Smith Avenue, White Plains, N.Y., and they have a son, Gilbert Thayer. On behalf of the Class I have written a note of sympathy to Mrs. Thayer, who was a Chelsea (Mass.) High School classmate of mine.

In the Boston *Herald* of March 14 I noticed a paragraph telling of the death of Roger D. Gale, which occurred on March 12. Roger was a graduate in our Class in the Course in Chemistry. He never has been at all active in our class affairs, and I have never known him at all well personally. Since 1946 he has been chemical director of Howe and French, paint and varnish manufacturers, at their plant in Weymouth, Mass., and as the result of a telephone conversation that I had with one of the officials of the company, I learned that on the morning of March 12 he started for his work, apparently feeling first-class, but became ill before he reached his office, returned to his home in Wollaston, which is a part of the city of Quincy, Mass., was taken to

a hospital in Boston, and died before the day was over as result of a heart condition. The man with whom I talked at Howe and French made the comment that Roger "led a quiet, exemplary life and was a useful, efficient, and highly respected man at Howe and French." He was a research assistant in physical chemistry at the Institute from 1907 until 1909, and then for two years was with Arthur D. Little, Inc., of Cambridge, and between 1911 and 1946 was associated successively as chief chemist, superintendent, and division manager of the Sanford Mills, a concern which manufactured artificial leather and rubber coated cloth, located in Reading, Mass. He is survived by Mrs. Gale, and also by a son and a daughter. His home address was 113 Elmwood Avenue, Wollaston 70, Mass. I have written to Mrs. Gale expressing the sympathy of our Class. — BRYANT NICHOLS, *Secretary*, 23 Leland Road, Whitinsville, Mass. PHILIP B. WALKER, *Assistant Secretary*, 18 Summit Street, Whitinsville, Mass.

• 1908 •

George Belcher, Sam Hatch, George Freethy, Jeff Beede, Karl Kennison and Harold Gurney represented the Class at the midwinter alumni meeting on February 1.

The third dinner meeting of the Class for the 1950-1951 season was held at Thompson's Spa Grill Club Room, Washington Street, Boston, on March 13 at 6:00 P.M. The following were present: Sam Hatch, Joe Wattles, Myron Davis, Carl Goldthwait, Linc Mayo, George Belcher, Jeff Beede, Harold Gurney and Nick Carter. It was good to see Carl Goldthwait as this was the first time he has attended our dinners. We hope he will become a regular attendant in the future. Leslie Ellis, who is usually with us, retired on March 1 from the Massachusetts Public Buildings Commission, where he had been senior civil engineer for many years. At the time of the dinner he was in the sunny south. Following the dinner, Harold Gurney showed excellent Kodachromes of interesting places in the Far West and along the West Coast. Joe Wattles followed with Kodachromes taken in South America, some of our National Parks and Canada, also some of his beautiful autumn foliage pictures taken in New England.

The following from the *Society of Automotive Engineers' Journal* of January, 1951, will be of interest, as we reported the death of James E. Hale in a previous issue: "Hale was a man who was happy only when he was creating something. Whether conceiving and developing the first 18.00 x 24 in. earthmover tire or using his own tools to make improvements in his summer home in the Canadian wilds, achieving something useful was his joy in life. The long list of technical advances in which he played a major part indicates he must have lived a happy life. He was a Firestone man for over 30 years. He rebuilt Firestone's engineering department back in the early 20's and headed it for a long time. At the time of his death, he was consulting engineer with an interest

in the organization's broadest technical problems. But the combination of imagination, initiative, and stick-to-itiveness which was his outstanding characteristic resulted in benefits from his efforts to almost every part of the automotive industry.

"Graduated in engineering (BS) from M.I.T., Hale always was on the side of science and engineering as opposed to cut and try methods. This point of view was apparent in his development of proper controls for test fleet operations, of dynamometer equipment for testing functional performance of tires, in pioneering early 'balloon' tire developments, and in his contributions to both highway and off-highway tread designs. While his work on balloon tires for passenger cars received the wildest acclaim, he himself considered his contribution to farm tractors of equal importance. In fact, Hale did some of the creating that so much delighted him in practically every area of tire engineering. He had an active role in every kind of tire for every kind of vehicle developed in the last 35 years . . . and he was never content merely to create and design. He was not one to lay a development on the table, sit back, and let nature take its course. He didn't play golf, but consistently he had a good follow-through. That's one reason the results of his creativeness have found such widespread acceptance and use.

"Most dramatic of Hale's later contributions to tire engineering was the huge 18.00 x 24 in. earthmover tire which resulted in abandonment of duals in favor of the large singles. Many considered these tires definitely in the 'it-can't-be-done' category, but experience proved the rightness of Hale's conception. He was the holder of more than 35 patents, all relating to some phase of tire, rim, or wheel engineering. He presented many technical papers before various organizations, 17 of them to SAE. He was a consistent and effective participant in technical committee work throughout his career. He was an active, energetic member of each of the many groups with which he served. He had a major role in building up the technical activities of the Tire and Rim Association, in the post-World War I SAE Ordnance Advisory Committee, in the tire phases of the SAE War Engineering Board work in World War II, and many other similar activities.

"Hale's mental approach to his hobbies was much the same as to his engineering. He wasn't satisfied just to have his time occupied. He liked to be getting something done. So, on his five-acre home near Akron, he did his own landscaping, planting, and transplanting of flowers and shrubs . . . and at his summer place on Lake Temagami, Ontario, he built and remodeled while his neighbors — if there were any within 10 miles — went fishing. He did like tramping and canoeing, and made many treks through the Temagami wilds and carried many a portage on the way. Born in Manchester, N.H., on October 13, 1884, Hale entered the tire industry as an experimental engineer at Goodyear Tire & Rubber Co. only a few years after his graduation from M.I.T. in 1908. He joined SAE in 1913, and in 1946

was SAE Vice-President representing Passenger Car Activity."

Clarence W. Clark retired on March 12, 1951. He was manager of the Chicago plant of the Du Pont Company's Finishes Division. He joined Du Pont at their paint plant in Everett, Mass., in 1923, after 11 years with the Bowker Insecticide Company. His present address is Post Office Box 94, Hampton, N.H. — Rudolph B. Weiler was elected president of the Chester County chapter, Pennsylvania Society of Professional Engineers, in February.

Karl Kennison was recipient recently of the New England Award of the Engineering Societies of New England. We quote in part from the March 19, 1951, issue of the *Journal of the Engineering Societies of New England*: "Mr. Kennison was graduated from Colby College in 1906 (B.A.) and from M.I.T. in 1908 (B.S.) In 1941 he was awarded the honorary degree of Doctor of Science by Colby. . . . He was a dominant figure in development of the Quabbin system and contributed noteworthy hydraulic innovations, among which the intake works at Coldbrook, by which the waters of the Ware River are diverted into the Quabbin Aqueduct through a 271 ft. vertical shaft, is a striking example of originality. These facilities are automatic in operation, diverting all the law allows and no more. The controls are original and the method of dissipating the energy of the falling water in the shaft is without precedent.

"Mr. Kennison's reputation as a hydraulic engineer has resulted in demands for his service outside of New England, notable instances of which are his inclusion on the panel of consultants for the New York Board of Water Supply and consulting services for the Government of Colombia, South America. He has been active in the professional societies, being a past president of the Northeastern Section of A.S.C.E., of B.S.C.E., and of N. E. Water Works Assn. . . . He has received the Dexter Bracket Memorial Medal of the N. E. Water Works Assn., the Clemens Herschel and Hydraulics Section Award of B.S.C.E., and the Institution Premium of the British Institution of Water Engineers." And we have just learned that Karl has been appointed as lecturer in the Department of Civil and Sanitary Engineering at M.I.T. Congratulations, Karl.

We are sorry to report the death on October 26, 1950, of John T. Ellsworth at Collinsville, Ill. — We report the following changes of address: Viggo E. Bird, Vesterkov, Glumso, Denmark; Huntley Child, 825 Adella Avenue, Coronado, Calif.; Stiles O. Clements, 708 North Linden Drive, Beverly Hills, Calif.; Harry A. Rapelye, Post Office Box 6104, Montreal 2, P.Q., Canada. — H. L. CARTER, *Secretary*, 60 Batterymarch Street, Boston, Mass.

• 1909 •

The winter alumni meeting this year was held on February 1 in Walker Memorial. The weather was warm, wet, and slushy, but in spite of this and bad driving there were eight of us at the '09 table, as follows: Howard Congdon, I; Chet Dawes, VI; Francis Loud, VI; Art Morrill,

XI; Joe (Judge) Parker, I; Art Shaw, I; Chick Shaw, V; Henry Spencer, II. Howard is still a structural engineer with Clifford Rhoades on State Street, Boston. His son John was with him again this year. He is at Hingham High School preparing to become a member of M.I.T. '56. Francis is now more than busy with Jackson and Moreland engineering new structures to meet present defense needs. Joe Parker is with the same company and is designing an addition to the Wiscasset, Maine, power station of the Central Maine Power Company. Wiscasset is up the Sheepscot River only 10 miles from the summer home of the Review Secretary at the Isle of Springs. Chick Shaw's son, Bradford, is still at the Westinghouse plant (formerly Sturtevant) at Readville, Mass. His Stepson, Walter Rapp, is with the National Biscuit Company at Los Angeles and Keith Rapp is in his third year at the Tufts Medical School and expects to be transferred soon to the medical reserve of the Flying Corps. It is to be noted that Art Morrill has returned from China where he has spent so many years in sanitation work. He promises a report, which we know will be interesting and which should appear shortly in these notes.

Last month we reported that the oil refinery being built in England by the Foster-Wheeler Company was practically completed and that Carl Gram was returning to the U.S.A. He is already here and before he landed in New York Art Shaw, I, had placed him with the New York branch of his company, Metcalf and Eddy and Alfred Hopkins and Associates, 61 Broadway. We expect to hear more from Carl after he has had opportunity to become settled.

A few years ago Jim Critchett announced his retirement from Union Carbide and he and his good wife were settling at Orleans, Mass., on the Cape and intended from then on to do those things which they had long wanted to do. However, in an emergency like the present, it became impossible for Jim, with his ability and experience, to remain in retirement. Here is a recent letter from him: "This will let you know of my change in address. Right after Thanksgiving I was called to Washington to head the Ferro-Alloys and Metals section of the National Production Authority. This controls the group of materials necessary for high quality engineering steels which are very essential in airplane engine and other plane parts, most armor, electronics parts, and a great many civilian essential elements. During World War II, these materials really set the pace of the armament manufacturing program and they will again this time. The situation was not really recognized early enough so there is much hard work to do in organizing and getting control of a fast moving program. It will take all of my time and energy for some time to come. Since Carl Gram is just coming off a job and I just going into a really tough one, I hereby hand back to Carl the baton as class president which I have been carrying as acting president during his absence." Jim's Washington address is Alban Towers, 3700 Massachusetts Avenue, Washington 16, D.C.

Paul, who is still indisposed, is living in

Detroit quite near his sister, Marion W. Fairbrother. He has received many messages from numerous friends. His sister writes as follows: "Last week Mr. Jack Moses called on Paul. I was glad to be at the Home at the time. We had a nice visit and I'm sure that Paul enjoyed it and it did him good. Brainerd Dyer has written to him. Isn't he one of the '09 Class? That Class is certainly a very loyal lot of folks."

While in New York attending the annual A.I.E.E. Convention, we met George Gray, VI. A few years ago George retired from the International Telephone and Telegraph Company, but war conditions made his services indispensable. Hence, he returned to the company. He has now, however, retired permanently and is enjoying doing those things which he has long wanted to do. — A clipping from the Holyoke, Mass., *Transcript Telegram* states that Ben E. Hutchinson, III, Chairman of the Finance Committee and vice-president of the Chrysler Corporation, made a good start in his training to go to the top places while he lived in Holyoke. He was formerly treasurer of the American Writing Paper Company and president of the Chamber of Commerce. He thought that the Dynamiters Club there taught him as much as did college. Ben had just been in Boston to present to the Graduate School of Business Administration at Harvard a 25-foot model, an exact replica, of the Detroit plant in which all Plymouth automobiles are manufactured.

We were quite shocked to learn that Harold Eaton, VI, died suddenly in January in Atlantic City from a pulmonary embolism. He was 63 years old and had been suffering from a heart ailment for 15 years. Most of you will remember that Harold played fullback on the class football team and was captain in the freshman year. He was born in Waltham, Mass., and prepared for the Institute at the Waltham High School. After leaving the Institute he became resident engineer of the Panama Canal and was awarded the Theodore Roosevelt medal for his services. He came to Atlantic City in 1913 and became associated with the New Jersey Mosquito Extermination Commission. In the early 1920's he organized the Eastern Engineering Company, a general construction and dredging concern. At the time of his death Harold was treasurer, his brother, Charles, president, and his son, Harold Eaton, Jr., assistant treasurer. He was director of the Boardwalk National Bank, a charter member of the local Kiwanis Club, a member of Trinity Lodge, and the Tuna Club. He was an M.I.T. Honorary Secretary in southern New Jersey. In addition to his widow, son, and brother, he is survived by two sisters, and a granddaughter, Demaris W. Eaton. Below is a letter received from his widow, Frances:

"I remember attending the football games when Harold was captain. He and I were Waltham High School sweethearts. My father was Richard Steele, Waltham City Clerk for many years. We spent our first two years of married life in Panama, Harold under General Gorgus, and have been here for 38 years. Harold was a wonderful man and his services were at-

tended by so many important people as well as humble ones, for he had been a friend to all. He engineered many years here inviting his brother Charles to join him in the 1920's. He had also invented a ditching machine. His present work was reclamation of the Schuylkill River, a huge project (dredging). As you will note, as treasurer he financed all contracts. Many roads and bridges have been built." We who knew Harold also appraised him as a mighty fine fellow.

Thomas J. Moore, VI, died on January 6 at his home in West Roxbury, Mass. Our records show that he was a member of our Class through his sophomore year and was also connected with '10. He was born in Ireland and went to Trinity College, Dublin, before entering the Institute. He was connected for many years with the engineering department of the New England Telephone and Telegraph Company and was a member of the Telephone Pioneers of America. He was a frequent visitor to Marion and Sandwich on the Cape. He is survived by his widow, Cecelia Landragan Moore, a son, Thomas J. Moore, Jr., a brother, Dr. Frank Moore, and a sister, Miss Claire Moore, both of Dublin.

On February 11, Frank Lovewell, I, passed away at his home in West Newton, Mass., at the age of 65. His son John is on the staff of Metcalf and Eddy, the firm with which Art Shaw is connected, and Art and John sent us some of the details of Frank's life. He attended the University of Chicago before coming to the Institute and played in the banjo club. He was known as Doc and for many years was connected with the Old Colony Trust Company, reaching retirement age in June, 1950. He had subsequently been working as a tax consultant with a Boston law firm to the extent that failing health permitted. Art recalls that Doc spent at least two years immediately following graduation as assistant instructor in the Civil Engineering Department and may have continued engineering work prior to going to the bank. The Class was represented at the funeral by John Davis, II, and Clarence Maynard, I, and a spray was sent in the name of the Class. Besides his son he leaves a widow, Elise Vose Lovewell. Mrs. Frank Lovewell acknowledged "with sincere thanks your beautiful floral tribute, the spray of pink and white carnations and red roses."

In an additional note she wrote: "I felt quite a bit of pride in knowing that Frank's class was represented at the service. Please convey my appreciation to the members of Frank's class for their loyalty to him and their kind sympathy to me."

Art Morrill submits the following report: "My wife and I had a very pleasant afternoon with Molly Scharff and his family in New York. There was some lively discussion of China politics and policies and only the fact that we had a dinner engagement enabled the Scharffs to get rid of us in time to keep one of their own for the evening. But it is a great satisfaction to discuss things with that family, even when they disagree with you.

"When my letter files catch up with me I can tell when I last wrote to the Class, but now I can only guess where we left

off. I have been with the World Health Organization since 1947, first as a sanitary engineering advisor on water supply and sewerage in Chinese cities. With W.H.O. and previously with the United States Public Health Service, I had a chance to travel a good deal over China including some very interesting and remote places. In the summer of 1948, I moved from Nanking to Shanghai to take charge of the W.H.O. China office there. The doctor who had been chief of mission had to return home and with the ominous civil war situation it was a poor time to recruit a new medical man for the place. For the first five months I spent every week end in Nanking, which is about 200 miles from Shanghai with very good sleeping-car service. That enabled me to see the national health officials, which was good for the work, and also to go on some very pleasant jeep picnics with American and Chinese friends, play some bridge with them, get some delicious meals at dubious-looking Chinese restaurants, and continue my lessons in Chinese. The two nights on the train every week were a little strenuous but it was very much more interesting than after the Communists came to town.

"They took Nanking on April 25, 1949, and Shanghai just a month later. We were a little worried in those days for fear that there might be looting or other disorder in the process. Not by the Communist soldiers, for we had reassuring reports of their excellent discipline in the taking of Peking, Tientsin and Nanking. But the police might disappear or be left without leadership, which is not so good when there are a million or so hungry people in your town. Fortunately, the changeover was so rapid and the Communists came in so quickly that there was little trouble. None at all in the part of town where I lived. We had heard cannonading on the outskirts of the city for several days but on the evening of the 24th Nationalist soldiers were still patrolling near our house. We slept soundly all night, hearing no great noise, and the next morning there was a Communist soldier on guard outside our gate. He was there, I guess, because it was a street corner and not because there were W.H.O. people living in the house. Later I managed to swap a few words with him and learned that he was from Shantung province in the north where they understand my kind of Chinese. Very few of the Communist soldiers understood the Shanghai dialect.

"After the change-over our daily life was very little affected. For the first 10 months inflation went on as before, with prices rising on the average nearly 16 per cent a month. Then last March the government succeeded in stabilizing the price level and the cost of living changed very little the last six months I was there. Taxes were much higher than before, but on the whole not much different than they are in the U.S. From inexperience the new authorities made some mistakes, such as setting certain taxes at confiscatory levels. For a while we paid \$25 a month for license fee of our station wagon and gasoline was \$1.50 a gallon. Later some of the early mistakes were corrected. The Communists claim to welcome well-meaning

criticism and the pointing out of mistakes and as far as I can tell there is something to the claim. Several old Chinese friends, who I know are not Communists, have told me that they do not hesitate to criticize things that are not right. This applies particularly to competent younger men without any administrative responsibility. Older men, who had important places under the old government, are not so well off. The new people seem generally suspicious of them but usually want them to continue in service, under hampering and often uninformed supervision. This difficulty is so serious that I think it is likely to be corrected before very long. The top leaders of the movement seem to be smart and practical people, who talk a good deal about Marx and Stalin but who don't stick long to their book theories if they fail to work in China.

"All this time we couldn't function very well officially, as the normal way W.H.O. does business is with the government of the country concerned. Since the United Nations did not recognize the new government in China, that government was punctilious about not recognizing the U.N. or any of its specialized agencies. Even when we tried to continue distribution of medical books and journals to Chinese institutions no important official would sign a letter about the matter. Younger men, especially old friends, would urge that the books be sent and sometimes an important official would approve the project verbally. But nobody of importance would sign a letter which then seemed to be necessary for us. In April, 1949, W.H.O. decided to close the China office, not because of any trouble with the new Chinese government but because a 'regional' office for the whole Far East was to be established in Hong Kong. It took a long time to settle up our affairs but I left Shanghai on September 14. Like all foreigners I had to get an exit permit which took two weeks, but I had no difficulties with the authorities. No passenger ships were coming into Shanghai because of the danger of Nationalist mines and for some reason the authorities were not willing for foreigners to go by rail to Hong Kong through Canton which is much faster. So I had to travel 38 hours north by train to Tientsin and, after waiting 10 days for a ship, come back south again to Hong Kong. I stayed four weeks at our office there and left on November 2 by air for Geneva, Switzerland, via India, the Near East, Munich, and London.

"I was two weeks at W.H.O. headquarters in Geneva doing some very enjoyable sightseeing on the side. Then I crossed the Atlantic on the big new French liner, *Liberté*, which is a lot more fun than flying around the world three miles up in the air, trying to sleep in a chair and being dragged out at 2:00 A.M., while they gas up the plane and you go through customs and immigration at some place like Calcutta. My future plans are not yet settled, I am still on leave from W.H.O. having stored up a substantial leave credit during my three years in China. It is not yet certain whether they will have another assignment for me when my leave expires. If not, I may go abroad again for some other organization. I suppose if I had any

sense I would settle down in the U.S. But it is also very interesting to go other places. — It was the chance of a decade to see you and seven other classmates at the midwinter meeting on February 1. Before that, it had been a long time since I had been able to get to an M.I.T. meeting, except in Detroit."

We have received a clipping from the Little Rock, Ark., *Democrat* stating that William M. Van Valkenburgh, IV, formerly chief architect with the Federal Housing Administration, had been appointed to the staff of Fausett and Company, realtors in Little Rock. William attended the University of Arkansas before entering the Institute. He will specialize in custom construction for the individual taste. He is also planning a new development project called the Coolwood addition.

Marion Jones, widow of Reg, VI, has frequently visited Massachusetts. Peter is a sophomore at Amherst and Marion has relatives in eastern Massachusetts and in Connecticut, so that she combines several visits in one trip, including one to the Review Secretary. Hence we are able to keep in close touch with the family. Marion has sold the house at Summit and now lives in an apartment there. Reg, Jr., who was with a New York bank anticipated the draft and enlisted in the Air Force. He was assigned to San Antonio and was so efficient that he seemed well on the way to an O.C.S. However, Marion suddenly learned that he had been ordered to Japan. Peter, after midyears, has also enlisted. Although Marion is naturally lonesome without the boys, she is cheered by the birth of a daughter to her daughter Elizabeth who lives in New York City.

Emma Haynes, widow of Delos, VI, accompanied a friend to Boston in late January and made her headquarters at the Copley Plaza Hotel. One evening she had Francis Loud as a guest for dinner and on another the Spencers and Dawes. Others were invited but were unable to accept because of engagements. She has a collection of Kodachrome slides taken with a camera that takes two simultaneous pictures. When the slides are viewed with a double viewer, a stereoscopic depth is obtained. We enjoyed seeing many of the excellent views taken by her and Delos, including many of the spots visited in their travels and of their attractive home. — PAUL M. WISWALL, *Secretary*, 20216 Briarcliff Road, Detroit 21, Mich. CHESTER L. DAWES, *Review Secretary*, Pierce Hall, Harvard University, Cambridge 38, Mass. *Assistant Secretaries*: MAURICE R. SCHARFF, 366 Madison Avenue, New York 17, N.Y.; GEORGE E. WALLIS, 1606 Hinman Avenue, Evanston, Ill.

• 1910 •

I hear from Cliff Hield regularly in regard to the Class Fund, which has made a start and is progressing very slowly. Cliff was intending to take a vacation in February, but in his last letter he said: "I have decided not to go away at this time of year. It is certainly cold enough, but with all the mess we are in I think I had better stay on the job." Hal Billings has been elected vice-president of the Massachusetts Building Congress. This organ-

ization includes architects, engineers, and all others in the building industry in Massachusetts. I see Sam Cohen frequently. Sam is with Stone and Webster in Boston. Sam had the misfortune of losing his wife recently. George Mylchreest writes that he has fully recovered from the illness which kept him away from the reunion last June and he is now back to work.

I received a letter from Henry Perley early in January in regard to the Class Fund. He is now living in Georgetown, Mass. Hal Manson is now an alternate representative on the Alumni Council. Hal and I had the pleasure of being together at the last Council meeting. At the midwinter alumni meeting there were four '10 men attending: George Lunt, who had as a guest a young fellow who is considering entering M.I.T., Abbott Allen, Arthur Curtis and myself. We had a very pleasant evening and the program was most interesting.

I have had several letters from Harold Akerly about our Greek classmate Achilles Hadji-savva. Harold has been instrumental through a friend of his in obtaining a scholarship at Pierce College, Athens, for Achilles' daughter. Achilles was most appreciative for the efforts that have been given for his daughter. Having met Achilles, his wife and daughter last spring in Athens, I can fully appreciate his feelings and all I can say is, thank God I live in the U.S.A.

It is my sad duty to report the passing on of Eugene S. Anderson. Earl Pilling writes: "I have walked many miles with Andy, especially to see every storm roll in at Little Nahant. I had understood that for the last year or so a heart condition had kept him close but that he had been getting out to some extent recently." The following is from the Hartford, Conn., *Courant*: "Mr. Anderson was retired advertising manager of the Hartford Fire Insurance Company, former photographic editor of *Field and Stream* magazine and for many years editor of *Better Photos* magazine. B. B. Gracey, assistant vice-president of the Hartford Fire Insurance Company, said today: 'Gene Anderson was an important and valued member of the company's staff for over 25 years. It can truly be said he had a host of friends in the company, in this city and in many other parts of the country, who enjoyed with him his many and varied interests. During his retirement he was a frequent and welcome visitor at the Home Office and his passing has saddened all of us.'"

The following is from the Boston *Herald* of March 6: "Boston Woven Hose & Rubber Company directors yesterday elected John M. Bierer of Waban president of the 75-year-old Cambridge concern. He succeeds the late J. Newton Smith, president since 1928. A native of Virginia, Bierer was graduated from Washington and Lee in 1908 and from . . . Technology in 1910. He joined the Boston Woven Hose and Rubber Co. in 1911 as chemist. He advanced to factory manager in 1929, to which was added the title of vice-president in 1944. In January of this year he was named executive vice-president. He has been a director since 1932." — HERBERT S. CLEVERDON, *Secretary*, 120 Tremont Street, Boston, Mass.

• 1911 •

Following the seemingly inexorable "law of three" there are two more deaths of '11 men to chronicle this month: Clarence Ofenstein, I, and Bill Stamper, I.

Clarence L. Ofenstein, 62, organizer and first chief engineer of the aeronautics branch of the Department of Commerce, died on January 27 in San Diego of a heart ailment. He had been ill since 1947. A native of the District of Columbia, he retired from government service in 1927 and entered private business. He had offices in the Tower Building in Washington, D.C., and later at his home in Chevy Chase, Md., before he retired in 1941 and went to California. Clarence prepared for M.I.T. at Eastern High School in Washington and while at the Institute was an active member of the Civil Engineering Society. Upon graduation with us in June, 1911, he joined the aeronautics branch of the Navy, where he helped design aircraft. Besides his wife, Emily H. Ofenstein, he leaves two daughters, both of San Diego; a son, who lives in Silver Spring, Md.; a sister and three brothers, all of whom live in the Washington area. Another son, Leo, an Air Force pilot, was killed during World War II.

Details are not yet available on the death of Willson Y. Stamper, I, who passed away at his home in Newark, N.J., on February 9. Erv Young, a classmate, wrote to me from his home in East Orange, during convalescence from an attack of the flu that has been rampant here in the east, that his doctor had told him of Stamper's passing. Erv has been promised an obituary by associates of Bill's in the Thomas A. Edison Company, with which he had been long affiliated and we'll have it for a later issue of 1911 notes. To the widows of both these classmates we have expressed, on behalf of the Class, deep sympathy in their bereavement.

A very welcome letter is at hand from Louis Harrigan, XI, who for many years has been in Beverly and whose interest we seem to have elicited in coming to the 40-year reunion. Louis writes: "No, I am not with the Transit Commission of Boston. I retired from it in 1946, but am still going strong. Just finished a term as commissioner of public works here in my home town of Beverly. Am commuting back to Boston again each day — now with Charles T. Main, Inc., engineers. Am feeling well and hope you are, too. Hope to see you at Harwichport in June." We'll surely be glad to see you and to meet your wife, Louis.

Here are some stirring words from a recent speech by Rufe Zimmerman, IX, vice-president in charge of research and technology, United States Steel Corporation, New York: "There is not a citizen of the United States who does not have a deep concern in the prosperity and welfare of our whole industrial organization. It is a national asset of priceless value, in peacetime or in war. Experience within the memory of all of you has demonstrated that fact. An estimated eighteen million stockholders should have an interest in every measure which af-

fects business, and more than that, many employees, who are integral parts of the industrial fabric, should be alert to the fact that the problems of industry are likewise their problems. The industrial structure of the country is not strengthened by having industry serve as a political whipping-boy, nor is the ultimate interest of any individual fostered by making private competitive enterprise weak and ineffective."

Don Stevens, II, wrote that Livingston Ferris, VI, now in retirement at Ashton Plantation, Lecompte Post Office, La., where he and his charming wife, Vera, are restoring Liv's old family plantation, was in town in early March and invited Don and Lois to see his California pictures. Don also wrote of a fine letter he had had from Bun Wilson, XIV, senior vice-president of the Aluminum Company of America, in which Bun modestly said: "As far as the recognition accorded me by *Modern Metals* (see March class notes) is concerned, I am sure you will recognize that any such recognition as this has to a large extent been earned for me by my associates. No one has been more fortunate than I have been in this respect." Commenting on Bun's choice as the aluminum industry's "Man of the Year" for 1950, *American Metal Market*, another leading business publication in the nonferrous metals field, subsequently said: "Under Mr. Wilson's tireless operational guidance, Alcoa's output was boosted from 327 million pounds in 1939 to 1,640,000,000 pounds in 1943. During this period Mr. Wilson directed the operation of new plants costing \$300 million which were built with Alcoa's own funds and \$450 million worth of government plants which Alcoa built without fee or profit." We surely are proud of you, Bun, and are looking forward to seeing you at our 40-year reunion. Don't fail us!

Trustees of Northeastern University, Boston, tendered their fellow member, Godfrey L. Cabot (M.I.T.'81), a ninetieth birthday luncheon in the Union Club on February 27. Dr. Cabot was presented a testimonial scroll by President Carl S. Ell, XI. — Bob Haslam, X, continues to "reach out," despite his retirement last year to his Short Hills, N.J., estate having recently been elected a director of Worthington Pump and Machinery Corporation. — Jim Duffy, VI, Chicago business consultant, sailed for Egypt and the Near East just before Easter, but plans to be back in time to be with us at the reunion. His son, Jim, who graduates from Culver Military Academy this year will accompany his Dad to the Harwichport get-together and to Alumni Day at the Institute on Monday, June 11. Young Jim hopes to enter Technology this fall.

B. Darrow writes from Akron, Ohio: "Retired now, I guess, but I am running the Akron Camera Company since my son went back in the Navy. There's a fair chance that I can get to the reunion; I'll certainly try my best." A card from Walter Welch, VI, office manager of Combustion Engineering and Superheater Company, New York City, written in late February from Hollywood, Fla., reads: "Came down here again this year, but a little ahead of time on account of

my wife being in Fort Lauderdale Hospital with cardiac pneumonia. However, we are both recuperating rapidly in the sunshine and have escaped some of the recent terrible weather in New York. See you in June."

As winter bows out, we have nine more dues-payers in the fold and three of them — Al Wilson, I, Cambridge; Louis Harrigan, XI, Beverly, and Ralph Runels, I, Lowell — say chances are excellent for reunion attendance and a card at hand from Minot Dennett, II, Detroit, says: "You might as well add my name to the increasing list of probable attendants for Snow Inn, June 8-10, for now it looks pretty sure I'll be there." He had previously listed chances as fair, as do two new ones: E. J. Batty, II, (2), Boston and B. Darrow, VI, (1), Akron. Five others, unfortunately, figure their chances as slight, but we hope things may change for them: Pat Russell, II, New York; Frank Taylor, VI, Rochester; Karl Kilborn, II, Akron, and H. C. Frisbie, I, Los Angeles.

So we now have, in recapitulation, excellent chances of attendance for 49 classmates, involving 84 persons; fair chances for 59, involving 87 persons; and only slight chances for 48 loyal '11 men. We hope you received your first issue of the current reunion year's *Theleverner* and the accompanying up-to-date roster of the Class, geographically arranged. Use it to persuade other classmates to join the "on to Harwichport Caravan" and plan yourself to be there for the entire reunion: Friday, June 8 through Sunday, June 10, at Snow Inn and then Monday, June 11, Alumni Day at M.I.T. and the Copley Plaza. See you then! — ORVILLE B. DENISON, *Secretary*, Chamber of Commerce, Gardner, Mass. JOHN A. HERLIHY, *Assistant Secretary*, 588 Riverside Avenue, Medford 55, Mass.

• 1912 •

We have just received word of the sudden death of Horace B. Fay, X, who has practiced patent law in Cleveland since 1912. He was a member of the Union Club, Cleveland Patent Law Association, Cleveland Bar Association, American Judiciary Society, American Chemical Society and Patent Bar of Canada. He leaves a wife and three daughters.

Word has been received from Harold G. Watkins who now rates as vice-president of Operations of the Akron, Canton and Youngstown Railroad Company. I hope to see him next month at the Materials Handling Show to be held in Chicago, as Harold is coming up from Akron. — Your Secretary enjoyed a very pleasant afternoon with Gene Marceau at the "Sea Shell," Mandalay Avenue, Clearwater Beach, Fla. Gene has been forced to retire from the soap-making business with Lever Brothers on account of a bad heart. By taking care of himself, Gene leads a normal life and at present is apparently interested in collecting sea shells on the Florida west coast.

Your Secretary was in Florida for approximately a week, where he managed to break two ribs, and then went on to New Orleans, Houston and St. Louis.

— Hamilton Merrill has been elected president of Manning, Maxwell and Moore, having charge of the plants in Jersey City, Muskegon, Tulsa, Watertown, Stratford, and Bridgeport, Conn. Congratulations!

It is only a year to our 40th reunion in 1952 and plans should be started at once as to location and date. Won't somebody send in suggestions so that we may get a committee appointed and start work? — FREDERICK J. SHEPARD, JR., *Secretary*, 31 Chestnut Street, Boston 8, Mass. LESTER M. WHITE, *Assistant Secretary*, 4520 Lewiston Road, Niagara Falls, N. Y.

• 1913 •

It is refreshing to read a letter from Mayo Tolman, XI. I knew him quite well at the Institute and remember that he was the type who had ideas of his own to which he adhered in a positive manner. He was not pigheaded, and he avoided rancor. Read on and see what came of it: "Get the smelling salts before reading further — my class dues are actually enclosed. Heaven knows how long it is since I have felt able to do this much and you will have to thank the cows for it this time. As you may be aware, I was in public health work for a good many years after graduating from Technology. Unfortunately, public health work, or at least every branch of it with which I have been connected, is so distinctly a matter of politics and, as I love politics as much as the devil loves holy water, most jobs ended in a scrap with some one higher up. Universally, I found it was a case of this or that should be done because it would make a hit with the public or that some politician wished this or that done, because it was "politically expedient" even though contrary to law. I started off on the wrong foot by opposing "tooth and nail" the old pail type privy the U.S.P.H.S. was building right and left in a county of the state of whose health department I was chief engineer. The fact that, in the end, they proved my point — that this type privy would increase, not lessen, the incidence of typhoid fever — did not help me at the time. I always fought against quarantine and, in my own bailiwick, had no secondary cases but all the rest of the families, other than those with the disease, felt their very lives were being jeopardized. So it went through the entire category. If I had it all to do over again I would do just as I did in the past though now I would probably 'get away with it' for the public is gradually waking up to the asininity of some of the old procedures in the field of public health.

"Recognizing my unfitness for health administrative activities as they were 30 years ago, I pulled up stakes and went after a Ph.D. in the field of statistics; I'll be darned if politics did not turn out to be even more rotten in vital registration. At any rate my attitude was, finally to h... with it so I retired from health work and bought a little farm here in the Deep South. Why the Deep South? My wife, who is the brains of the family, pointed out that, in the north where it is so cold, we would have to hustle too all-fired hard

for six months in the year to get the wherewithall to keep warm the other six months. Now we have to hustle all 12 months to keep ahead of the weeds. Whatever you do, do not put me down as 'Farmer Tolman of the Class of 1913'; I am only the farmer's husband. I do milk the cows and tend to similar chores. Retiring on a shoestring that has now unravelled to a frayed tip has meant heaps more work than I ever undertook even back in the days when I held two or more so-called full-time jobs at the same time. However, we are far nearer really living than ever before. As we have a large farm freezer we have not had to buy a scrap of beef, pork or chicken for several years, yet we are living better than John D. Astorbilt. Except for gasoline, coffee and sugar coupons we could say 'to h... with the ration books of World War II.' You'd better come down, Fred, and learn how to really live on a minus income."

Tom Byrne, IV-A, writes under the letterhead, Thos. S. Byrne, Inc., Engineers & General Contractors, Fort Worth, Texas: "Enclosed find my check in the amount of \$38 which brings me up to date on my class dues. Being this much in arrears at one dollar per year is more laughable than embarrassing. I read religiously our class notes and always enjoy getting some line on a few of our Class. I have kept some contact with Harold Crawford, Andy Vogel, John Harty and Carl Stucklen all of IV-A, and enjoyed meeting with them at our 35th in 1948. Also, I had the pleasure of hearing Churchill and attending the Convocation. M.I.T. has always been most inspirational to me, and as the years pass I find it even more definite. I have been in the general contracting game for many years in Fort Worth, Texas, and have seen good and bad times like we all have. However, it has all been most interesting and in general quite satisfactory. At the present time we have under construction three major projects, a large bank and office building, an airport terminal building, and office and hangar building, totaling around \$10,000,000. I was delighted to learn that our fund raising campaign for the \$20,000,000 was successfully closed. If any of the old bunch are ever around Fort Worth, I would be delighted if they would drop in."

Wood Selfridge, II, always hits over 300 in class notes contributions. Take inspiration, ye laggards, from the following: "If I don't get this off pronto you'd probably never get the dollar let alone any notes. I suspect I'm not alone in this matter of notes — or no notes to be precise. One settles into what seems such a routine existence it never occurs to one that the outside world even cares a mite about more or less normal affairs. There are no kudos, medals, cups and the like to boast of and conversely, as luck will have it, no major misfortunes to mar the picture (better knock on wood). Still married to the same girl (33 years), one boy, and a girl, and one grandson. Bud (S.W.S., Jr.) is U.S.N.A. '45, flying and married — just about to get his two stripes. Barbara, single, graduated from the University of California in February, 1948. Nothing particularly unusual. She

is now in Florence, Italy, trying to get more culture into her make up. As for me—have now been with Standard of California for 29 years, 14 of which I spent in the Los Angeles territory. All but the last four years were devoted to right-of-way work. Now I'm mixed up in property taxes. Anyway, I think it's a great outfit and have enjoyed my work to the utmost.

"Speaking of other Alumni, and this is one for Ripley, you may recall that my twin brother Jack (Soley to many), and I entered the Institute together in '08 and graduated in '13, in different courses. From here the parallel ends as we each went our separate way. We both married Salt Lake girls, chums, (both still married to the same). He has two boys and one girl and six grandchildren—well ahead of me. In the last few years the parallel began to merge again. I came back to San Francisco in January, 1937. Jack had been here all the time. Both of us are in work we never dreamed of in school. He is financial secretary of Firemans Fund Insurance Company and I have the dubious honor of being assistant treasurer and tax agent of my outfit, something of a similarity there you might say. The payoff is that his telephone number is Sutter 1-7000 and mine is Sutter 1-7700. Could be closer but don't know how. Anyway—take it or leave it, Fred."

Following our very pleasant visit with Don Van Deusen, II, at the M.I.T. Convocation two years ago, Don writes: "During my brief but busy period with the M.I.T. Development Program, I thoroughly enjoyed seeing Bob Nichols in Binghamton a number of times—a grand person. That led to a renewal of acquaintance with Pete Haynes and Gene Macdonald here in New York which also was delightful. From one end of the state to the other I traveled for approximately a year and a half and saw many others of our Class; but I am sure that you know more about them than I do, as I have not been the most active alumnus nor the most prolific contributor to class notes. Am now with the National Association of Mutual Savings Banks, on the staff at the headquarters office in the Lincoln Building in New York; and for the first time since starting a nomad existence during the last (I mean previous) war, we now have our cherished possessions again around us at home on Brooklyn Heights at 46 Monroe Place. You probably get to New York often; do give me a ring and have lunch or dinner with me, and I mean that."

H. J. von Rosenberg, IV, says that he sees Fred Goeth of Austin at alumni meetings, and as for himself he is still in the general contracting and stock farming business in Austin, Texas, with very little to brag or complain about. I had gotten the idea that Bill Brewster, II, had a score of grandchildren, but he puts me straight on that score as follows: "Our score on the grandchildren now is nine, so far as I know with no fraction or fractions involved. My youngest boy has been called back in the Service and is now with the Marines at Quantico as first lieutenant. Business is, of course, active and prices are very high; with the fiber

supply rather tight but in far better shape now than it was before Pearl Harbor, as a much larger proportion of the country's requirements is now produced in this hemisphere. There's no use mentioning the uncertainties, the confusion and governmental involvements and taxes which exist—we've all got those."

With retirement in the offing for many of us note particularly the pleasant prospects which Si Champlin, V, has in mind: "Every year about this time comes a letter from that man Murdock, and it goes on top of the heap at the right, to be answered in a few days. It soon gets smothered, and may turn up months later. Not difficult to reply, you understand, but the initial effort of getting started on almost anything is the tough part. Sixteen years ago, after unlamented NRA and its attendant disturbances, the job in California petered out and I landed one in Cincinnati, Ohio, at the time the automatic premium loans on my life insurance were about to expire. Progress, though slow, has been in the right direction, but the desire to return to California is perennial, especially at this season. We get back there every year or two to see the daughter, employed in the administrative department of U.C. at Berkeley. Last fall, we dined one evening at the Claremont Hotel in Berkeley, and I recalled that Hattie Haub'12, V, who had a lab course in physical chemistry with us, had lived there for a long time. On inquiry, I found she was still there, so we chewed a bit of rag together. She is now retired, after teaching in Berkeley since 1912. She blushed again when I reminded her that Jerry Lane called her 'Grandma,' and when I objected to his use of the term, she said, 'I see no reason why he could not call you "Grandpa." I am not a grandpa, and have no hope, expectation or desire to be one. Eventually, if circumstances ever are such that retirement is feasible, we expect to return to California for keeps. The choice of locality has changed occasionally, the latest being Chico, on 99E, 100 miles north of Sacramento. Looks like a lively town, level for old legs to travel easily, and well shaded with lots of tall trees in contrast to the scrubby ones in many of the towns. We hope to be able to grow most of the fruits and vegetables we need, with flowers for pleasure. The past 16 years have been spent directing the research of the Heekin Can Company chiefly in food products that our customers pack. Membership on Can Manufacturers Institute Research Committee and National Canners Association Processing Committee has required fairly frequent trips to New York, Washington, and Chicago, and opportunity to meet many very fine men in the industry. Cliff Sifton'15, is secretary of the C.M.I. and E. J. Cameron'18, directs NCA research at Washington. All in all, though great riches have been completely elusive, we can look back on a lot of enjoyable living, exist very comfortably for the present, and anticipate pleasant activities to the extent that our physical abilities permit. Can wealth offer more?"

Max Harrington, XI, as a student had all the earmarks of an engineer and a

hard worker, to boot. His letter shows that he is fulfilling his promise: "Find I have two of your missives, indicating 'no dollar' last year—so here are two to make up. Have been with the Detroit Edison, the local electric utility, since 1923. We have our own engineering company and have been building continuously to keep ahead of the ever growing demand. This year demand has risen 15 to 25 per cent above last years, with no sign of a letup. I read the '13 news regularly and am glad to hear of the Class and their doings." Bob Portal, VI: "It was nice hearing from you even though it's the 'usual boning for the buck.' Things are about the same with me—but don't see many of the boys. Run into Bill Eichorn, Phil Capen and Townsend once in a while. In our business, Auto List, Inc., the war scare gave us a rather bad time last year, but this year looks very good; we feel it will be, if. We found it necessary to expand our business so have purchased a four-story building at 316 Washington Street in Brookline. We occupy two floors and rent the rest of the building. Find it an excellent location and am just hoping we continue to get the business to warrant this move."

Ralph Rankin, VI, is able, versatile, and no pussyfoot. His letter proves it: "Why don't you make a nice steady job out of being class secretary? All you would need to do is to divide the list of classmates into, say six or eight groups and stagger this business of collecting dues through various months of the year—and assure yourself of a nice, regular stream of correspondence. At present it seems either a feast or a famine! I believe that is an idea worthy of having been thought by a Gene Macdonald! Personal news is simple: Am still with A. T. and T. and have reached the stage where I can't be fired without a pension; have two granddaughters and two grandsons so that I can be dignified; still uphold sail-boating as the world's best sport, although I lost caste by taking a motor cruiser south last fall; health, good; golf, poor; disposition, worse; opinion of the New Deal, awful!" Walter P. Muther, I, has removed from Dayton, Ohio, to 3301—61st Avenue, Oakland 3, Calif. Francis Shaw Curtis, VII, of Ashfield, Mass., died on January 9, 1950. Alfred L. Loebenberg, X, died suddenly on January 27, 1951. For the last 35 years he has been with the Barrett Company and National Aniline division of the Allied Chemical and Dye Corporation, as a vice-president of both subsidiaries.—FREDERICK D. MURDOCK, Secretary, Box 788, Pawtucket, R.I.

• 1914 •

New railroad honors have come to our classmate, Frank Jerome. Frank went with the New York Central Railroad immediately after graduation, as a transitman at Elyria, Ohio, not far from his home at Painesville, Ohio. From 1917 he was stationed at Chicago, where he served first as assistant engineer, then trainmaster, and finally as division engineer. In 1938 he was transferred to Detroit as engineer maintenance-of-way of

the Michigan Central affiliate. A year later Frank was back in Chicago as assistant chief engineer, and four years later he was promoted to chief engineer. This stay was short, because two years later he was transferred to New York City and moved rapidly through several positions, including vice-president, operations and maintenance. In February he became executive vice-president of the entire 11,000-mile New York Central System. Many congratulations, Frank.

On March 13, O. C. Hall completed 35 years of service with the Bell Telephone System. The event was noted by a special luncheon and the award of a service pin. Herman Affel is scheduled for the same ceremony just before these notes are due to appear. Hall's son is still doing well as a student at the Institute and has been elected president of the M.I.T. chapter of Kappa Sigma. As for Affel, Dean Fales reports that he met him in a restaurant in Kennebunk, Maine, when Affel and his wife were returning from a winter visit to their summer home near Augusta.

Our famous aircraft classmate, Donald Douglas, made new headlines recently. The French Government has elected him to the Legion of Honor. Locally, Don was elected chairman of the western region aircraft manufacturers' council of the Aircraft Industries Association. On the West Coast, Don is referred to as the dean of aircraft builders. — Alden Waitt, Major General retired, does not take the "retired" very seriously, as he continues to be exceedingly active in the field of industrial chemistry. Recently he was elected to the council of the American section of the *Société de Chimie Industrielle*. This is an international organization dating back to the days of World War I.

Two more of our number have passed to the great beyond. Ralph M. Emerson died of a heart attack on January 22 while driving his car in Salt Lake City, where he was associate engineer for the Utah Power and Light Company. Emerson was born in Ogden, Utah, and was a Course VI graduate from the Institute. He married the former Lelia Raymond of Essex, Mass., in June, 1916. She and a son and daughter survive. — Harland Francis Brown, whose death was recently reported, came to the Institute from Framingham, where he continued to live until his recent death. He was a graduate of Course I and followed engineering throughout his career. Brown was married in June, 1915, to the former Dorothy Frances Avery who survives him, together with a daughter and a son.

To classmates who saw the announcement in the press and who have inquired if your Secretary has deserted the General Radio Company, the answer is, no. Following the death of the president of the Boston Woven Hose and Rubber Company, John M. Bierer¹⁰ succeeded to that office. Your Secretary had been a director and member of the executive committee of the company, and has now added the position of first vice-president. Marshall Dalton¹⁵ has been elected to fill the vacant directorship. Our classmate, C. C. Davis, has for many years

been chief chemist of the company, which is an old New England organization dating back well before any '14 man was born. Your Secretary will continue to spend the major part of his time as chairman of the Board and Management Committee of the General Radio Company. — H. B. RICHMOND, *Secretary*, 275 Massachusetts Avenue, Cambridge 39, Mass. ROSS H. DICKSON, *Assistant Secretary*, 126 Morristown Road, Elizabeth 3, N.J.

• 1915 •

What a Class! Jack Dalton reports 152 classmates gave \$98,174 on the Development Program — a splendid showing that keeps us at the top among our contemporary classes. Jack and Bill Campbell did fine jobs heading the committee. Congratulations to Jack on his new position as a director of the Boston Woven Hose and Rubber Company, Cambridge. We wonder what he does with his spare time — though Jack modestly says time hangs heavy on his hands.

Gene Place is gaining steadily and is well on his way to complete recovery. We've played some bridge with Ruth and Gene and we report that he's just as sharp as ever! — The fellows who attended the reunion are well pleased with Jac Sindler's red plastic bowls and have written many letters of thanks and appreciation. — What class spirit in 1915! Wally Pike and Parry Keller have come up with prints of all their colored pictures taken at the Coonamessett reunion which will be sent (no extra charge) to each man appearing in a picture. Nice of them to do this for the gang.

Our Class's reputation shines afar. The 1943 class wants to organize and have selected us as a model and a mentor. Sons of '15 in the class are Bill Place and Gene Eisenberg. With these boys and a few others, Jim Hoey, IX-B, is working to arouse and enthuse 1943. Good luck to this younger class with our assurance of all the help and encouragement we can give them. They couldn't pick a better class to follow.

I had planned to see Allen Abrams and Doug McMurtrie in New York on February 21 at an M.I.T. luncheon during the convention of the Technical Association of Pulp and Paper Industry but I was laid up at the time with the then current flu. I'm sorry to have missed these classmates. Doug went on to visit his third grandson in Pennsylvania. In March, I had a card from Frank Scully in the Virgin Islands. Frank must be doing all right now. He wrote that it would be a good place for our next reunion — there's a lot of rum down there. My, my, Frank!

At the annual dinner of the Harvard Club in Boston on March 21, Henry Sheils and I had the good fortune to see and hear Jim Killian and President Conant — a rare treat to see these two eminent college presidents together. Herb Anderson is traveling again. On March 16, he and Alice sailed on a South American cruise — a pleasure trip which Herb has justly earned. If sunny and warm spring weather ever comes to New England, Fran and I hope to motor through Connecticut to visit some classmates. Already String and Susie Hill have asked us to stop in Hart-

ford and Marion and Vince Maconi to stop in New Haven. We're looking forward to the pleasure of seeing as many of you down there as possible. This includes Jim Tobey and his family at Newtown, Conn., as Jim recently wrote that Uncle Sam is beckoning to him again. Three war services in one lifetime is too much. Jim said he met Andrew Fabens¹⁰ in Delray Beach this winter. That's in Florida, isn't it?

With fine courage, after his long illness, Al Hall wrote from 19 Locke Street, Saco, Maine: "It has been a long time since you have heard from me but I think of you and the Class of '15 quite often. I followed the news of the class reunion last summer with the greatest of interest and it goes without saying that I was very sorry that I could not attend. As a matter of fact, I haven't been able to go to Boston since the time we had lunch together at the New England Sanitarium. Since that time it has been necessary for me to spend an occasional week or so in a convalescent home, first in Westbrook and later in Kennebunk. A year ago, I had a nervous breakdown and ever since we've had a nurse to help care for me. I go riding nearly every day and since taking a new medicine, 'Artane,' I have gained quite a bit and think soon I may be able to play around some in my workshop. Last June, our daughter Priscilla graduated from Westbrook Junior College and in September she was married to Howard R. Slaney, Jr., a senior at the University of Maine. They are living in Orono. Thanks again for the souvenirs of the reunion. And if any classmate is ever going through Saco, I hope they'll stop and say 'hello.'" Best wishes to the young couple and the best of luck to you, Al, for a speedy recovery and a wonderful summer!

Tom Pond, X, doing his civic duty as the recently appointed co-ordinator for the fire, police, water and sewer departments in Franklin, Mass., in connection with the class for first-aid directors. Can you just see that smooth Bill Campbell charming those Jacksonville M.I.T. Alumni when he spoke at their banquet there in March at the George Washington Hotel, and told them about the new application of electronics in radar cooking, food preservation and the development of a "heart bank" for humans? That Bill! — In the Church of the Holy Communion, South Orange, N.J., on February 21, Henry Leeb's daughter Katrina was married to Dickinson R. Debevoise. Congratulations from 1915 to these newlyweds.

Dr. Albert F. Cornelius, Crescent Drive, Berea, Ky., died on June 6, 1950. We have no further details. — You've done much better this month with notes for this column — but "help — help Azel" for the months to come. — AZEL W. MACK, *Secretary*, 40 St. Paul Street, Brookline 46, Mass.

• 1916 •

The mail was heavy again this month, and once again it is a pleasure to hop right into the writing of this column. We'll start with a letter from Art Shuey, who brought us up to date with the following note: "Thanks a lot for your letter

and in order that you get a reply I am sending it on at once instead of putting it to one side and thinking that I will write you a long letter soon. (Ed. note: very nicely put, Art, and an example that others should try to follow.) We have been living in Shreveport almost 20 years and I feel that I am a transplanted Yankee for good. Our oldest boy is a lawyer here, the next one is a physical chemist for Rohm and Haas in Huntsville, Ala., and the youngest one is with me in the life insurance business here. We try to keep young by keeping in touch with the younger generation. Mary Willis teaches English at Centenary College where she has them almost too young. I have been a member of the City Planning Commission for a number of years and last year served as chairman. Last summer we spent four months in Europe where we both pursued our own quest for information but finally ended up with more memories of the interesting people we met than with any specialized knowledge of the things we saw. Please give my kindest regards to Bill Farthing, Hovey Freeman and Chuck Loomis."

Then there was this short item from Francis Stern: "I look for our class notes as soon as I get *The Review*, and within a very few days, I'll send you a few lines which you may or may not wish to use when you run out of more worthwhile material. I am looking forward to the June reunion even though it probably will interfere with the best week of trout fishing at my club in Pennsylvania. Best regards and if you're ever down this way, don't forget to give me a buzz. Haven't been up to Boston for a long while or you'd have heard from me." It has been a long time for many of us since we have either seen or heard from others in the Class, but we can and will remedy this situation very nicely on June 8, 9 and 10.

Maurice Strieby came through with this very interesting letter in answer to our request for news: "As you know, I have been with the Bell System since graduation. I have been rather fortunate in having connection with some interesting and successful jobs. From 1929 to 1940, as carrier research engineer for the Bell Laboratories, I was in charge of the development of coaxial cable systems for multichannel telephone and television transmission. This development was highly successful and has provided us with the most economical cable facilities we have for long-distance telephone purposes and also has provided a large share of the facilities in use today for intercity network television. Since 1940, I have been in the operating end of the business, first as transmission engineer, later as staff engineer and now as staff executive for the American Telephone and Telegraph Company in their Long Lines department. In these latter assignments I have had the responsibilities for the engineering of coaxial cable systems and of the newer microwave radio relay systems, which are now proving of great value on many of our long intercity routes for both telephone and television purposes. Recently, I have had the responsibility for informing our own people and the public on these newer developments, and in that

connection have been giving a series of lectures, principally at the cities where we now give television network service. Some of these lectures have been designed for popular audiences, whereas others have been presented as papers before various technical societies. I do not know whether I will be able to attend the reunion, as I have some commitments in the West and Far West during June. In any event, I would like to be remembered to members of the class." We're going to have a wonderful week end, Maurice, and it would be well worth your while to hop a quick plane and join the festivities.

Howard Evans seems to have caught us with our "ciphers" down. He writes: "I see that in the latest *Review* you finally ran me to earth — someone evidently sent you that item in the *Wellesley Townsman*. And what a typographical error there was in what you printed! Your item refers to the Hunter's Point Navy Yard, which I had a lot to do with, as costing 'more than a million dollars.' Goodness gracious, a whole big Navy Yard for a million or two — should have been 'more than a hundred million.' Now, while I'm at it, I'd like to go on record for the one thing I really feel that I can brag about, as far as M.I.T. is concerned, and that's my own private family M.I.T. Alumni Association. I have two children, both married, and when they and their respective husband and wife sit down to Thanksgiving dinner with my wife and me, four out of the six of us are M.I.T. graduates! My son graduated in '42 (he got his Ph.D. at the Institute some years later) and the young lady he married was a Technology classmate. Then in 1948 my daughter followed her mother's example and married an M.I.T. undergraduate, who has since acquired his degree. So that's how it is! Best regards." Thanks for calling this oversight to our attention, Howard, and also for your interesting letter. Although it was purely unintentional on our part, perhaps it might be a good idea if someone could make similar and substantial cuts in some of our government's expenditures.

This letter from Al Lieber, who was recently promoted to the rank of brigadier general in the United States Army, and is now stationed at Fort Belvoir, Va., is really a long one; but we felt that it was so interesting that we should include as much as possible, and we begin here right after the introductory paragraph: "So to go back to 1916. Before graduation I had applied for the Army examinations for the Corps of Engineers, but with the filing efficiency which still seems to be the hallmark of the adjutant general's department, record of my graduation from M.I.T. did not catch up with my application, so it was 1917 before I was authorized to take the exams. The waiting time I put in as a student engineer in the McClintick — Marshall Company's Riter Conley plant in Leetsdale, Pa. That was about the last time I had occasion to use the math and indeterminate structures I had boned at school, unless their disciplinary value to my soul should count for something. Leetsdale had nothing to recommend it. Entering the Army in 1917,

I served in various schools and training camps in the States under assorted CO's until after the 1918 Armistice. I have pretty definite proof that my CO's were at times skeptical of my ultimate value to the service — some years ago one of them explained to my wife, with half a dozen highballs to steady his nerves, why he had restricted me to the area so frequently. He dealt in terms of 30 days per infraction, not the puny seven days enjoined by the present Articles of War. After the Armistice, I was sent to Panama, where I put two and a half years on the Military Survey. The time in the jungle was a wonderful experience; one of the best features was that usually I was so far out of civilization that no one came out to inspect me. After Panama I returned to the States in 1921 and took up what the book calls the usual round of school and garrison duties. That included the engineer school here and the command and general staff college at Fort Leavenworth, and duty as an instructor at the engineer school. It also included troop duty at Fort Sam Houston and Fort Humphreys, and construction duty on the harbors and channels of the Gulf Coast and flood control dams in Ohio, with some research in wave action and beach erosion thrown in. In 1930, Isabel Emory Atkinson, of Chestertown, Md., joined the Army as my wife. Despite the career, she has retained a cheerful and insubordinate spirit. We have two children: Albert, who is a plebe at West Point; and Anne, who is a freshman at the Holton-Arms College in Washington. Our family has been dragged around a good bit, the children have seldom gone two years to the same school. We have become somewhat inured to moving, but not to the point of liking it. Now we say of each move that it is our last but one — that one to be the move to our farm over on the eastern shore of Maryland. Our current aim is 'after Korea.' At the start of the World War II crisis, I was involved in building air bases from Newfoundland to British Guiana. With a war on I got back to troop duty which lasted just three months before I wound up in Iraq and Iran building wharves and highways for lend-lease movements. I was out there about a year, returning just before the Persian Gulf show was established. The ease with which I could contract dysentery and the 147 degrees F. shade temperature we enjoyed in the South Persian desert cut my weight down pretty thoroughly. It was wonderful country for an engineer, about as many local resources as you could expect on the moon. Baghdad is the only city I know for which you can bring in an airplane by beaming on the smell. In 1942, after the medicos concluded I was still fit for duty, I got back to my real love in the Army — troop duty — and served in the headquarters of the XII Corps to the end of the war in Europe. We were in the Third Army throughout, and when you saw the maps showing one of Patton's long swings reaching out and going around corners, that was the XII Corps. I can still run a temperature when I reflect on what might have been the course of the war if the September, 1944, decision to take away Patton's gas and ammu-

nition had not been made. Of course we might have been pinched off; most of us felt we could have gone clear to Austria and the Carpathians. After the war, I put in several years in Army Field Force Headquarters and in the Pentagon as a 'planner'—an occupation which tends to lead to aspirin or whiskey, or both. They were good plans, but it was a happy day when, about a year ago, I was offered the post of assistant commandant here, to operate the engineer school. The school had grown tremendously from what it had been when I was a student 30 years ago, it really is a good sized college now, and the scope of courses runs from enlisted specialists to officers' post-college courses. With the Korean crisis, the engineer replacement training center here was reopened, and I was shifted to that command. Now my job is to see to it that our young volunteers and selective service men get the best possible combat and field engineering training. They are a remarkable group of youngsters; I have never seen recruits who have and maintain such an interest in perfecting themselves. They make me think more of the willing and inquiring attitude of college students than of the reluctant Mommoaners the super-sapient sociological wizards seem to like to picture. We are teaching them the military arts in the same manner that we ourselves like to be taught—explain the background, talk level, be friendly, and hold to the high standard. Not that they all are perfect; I don't like to waste much time on the few hard guys, they do not last long in combat. Luckily, I have no top secret information of the Korean or Communist situations, so I can philosophize on the big picture without danger of security violation. For my money, there is a tremendous amount of drivel being published in the press. Everyone is an expert, and his words are keen and penetrating, clear warnings for what the future is to bring. And within two weeks or less everything is going the other way. Big movements come slowly in politics and economics, today's crisis shrinks a lot before it gets into its historical frame. If anyone thinks today's problems are insoluble he should reread the record of the eight years of our Revolution and then follow up with the next 12 years of our continental and international problems. And the Founding Fathers solved the problems without benefit of aspirin. So, I'll take my stand on the fact that historically, forces of evil always have succumbed to those of good. The Communist idea will collapse from both outward and inward attack. About the time factor, I do not know. There have been 30-year wars and 100-year wars; I cannot recall any major war that was short. It's time to cease fire and close station. Now that I've pecked all this out of my typewriter, I feel that silence would become me. To summarize, the past 35 years have been a lot of fun and I'm looking forward to the next cycle." Al is going to be with us at the reunion, but if he thinks for one minute that he's going to bring along any of the Army routine and try and drag us out at 4:00 A.M. to do calisthenics, he's crazy.

Steve Brophy tells us that he just got back from two weeks in the West Indies. Then there is this news item on John Ingle: "John B. Ingle, 56, of San Diego, Calif., became director of the Government's rubber procurement program today. Ingle was appointed by Jess Larson, Administrator of General Services. He will operate within that agency's Emergency Procurement Service. Since the first of the year it has had responsibility for the purchase, import and distribution of all natural rubber for Government and industry use. Larson said Ingle has had more than 30 years experience in all branches of rubber industry and is an able man in 'this highly specialized field.' Ingle has been a consultant for the purchase of rubber for the national stockpile since April 1948." Another news item informs us that Frank Ross was recently advanced from vice-president of the Factory Insurance Association to the presidency of that association with office in Hartford, Conn.

Our second monthly luncheon in Boston for this season was again a great deal of pleasure for all who attended. With our 35th reunion so near at hand, it was no wonder that most of the talk was centered around this big event. Steve Berke, Bob Crosby, Earl Edwards, Joe Minevitch, Harold Russell, Hy Ullian and your Secretary were present, and all were singing the praises of Coonamessett. You will see all of these fellows at the reunion.

This quote from Bill Farthing's recent letter will interest those of you who are planning to bring your wife to the cocktail party at the Copley Plaza on June 11: "Barney Gordon, as usual, is going to present to those attending a couple of pairs of his finest nylon stockings, provided he gets the sizes." By the time you read this column, you will have received a return post card in the mail requesting the size of your wife's stockings. Please mail the card in right away so that we will have the right size on hand for your little woman.

We got quite a kick out of this letter from George Petit: "Thank you very much for advising me of the date and location of our *Thirty-Fifth*. (Wow!) I'll be there. As to June 11 in Boston, I cannot be sure. However, count me in for any charge for facilities and so on. I would not have any guests or ladies unless you could find me some. I'll be so glad to see you, Walt, Bill, Hovey, Harold, Steve, Charley, Bob and all the rest. Personally, I've got sort of a second wind on life and I look forward to our reunion with happy anticipation. Have you selected the site of the 40th reunion? Thank you again, old man, for letting me know." That's the kind of enthusiasm that we like to see, George; and believe your committee when they say that this reunion is going to be all that you want it to be and then some.

Here's a letter that came in the other day from Walter Aiken: "Just a line in reply to your letter of March 7 to let you know that I am still alive, although on January 1 I retired from active work because of pretty bad arthritis. I am sure looking forward to going to the 35th reunion. If I can find time before then I

will run down and see you and maybe we can work up something for The Review." Sorry to hear about the arthritis, Walter, but very happy to see that it can't keep a good man down and that you will be at the reunion. — We have been receiving many more cards and letters telling us: "I'll be there with bells on" or "I wouldn't miss it for the world" or "looking forward to being there and meeting the old gang again." If any of you are still on the fence, don't hesitate any longer. It will be one of the best times in your life; and you owe it to yourself, after these long years of hard work, to be at Coonamessett for this gala event.

We regret to inform you that Norton Zinderstein passed away on January 30 of this year. Your Secretary has conveyed the sympathies of the Class to Mrs. Zinderstein.

The Alumni Association recently wrote to us: "I believe that you will be interested to know that George J. Mead of the Class of 1916 made a gift through his will of a fund to assist outstanding boys with inadequate means to receive at M.I.T. the best possible education to fit them to direct engineering or research on power plants for airplane propulsion and a fund to stimulate all students in the aeronautical field at M.I.T. to their best efforts through suitable prizes and other means." Most of you will remember that George died on January 20, 1949.

We have run on here for quite a spell, but only because you have been so good to us with your letters. Before closing, we would like to suggest that you be good to yourselves — take in the reunion. — RALPH A. FLETCHER, *Secretary*, Post Office Box 71, West Chelmsford, Mass. HAROLD F. DODGE, *Assistant Secretary*, Bell Telephone Laboratories, 463 West Street, New York 14, N.Y.

• 1917 •

Your Secretary made a trip to Puerto Rico and the Virgin Islands during March and was fortunate enough to be present at a preliminary meeting leading to the formulation of the M.I.T. Club of Puerto Rico. Friends of Lobby and other members of the Class are expected to participate actively in organizing the new club and Lobby himself was scheduled for appearance at their first meeting in San Juan on March 31. His visit there was to be part of an itinerary including visits to M.I.T. clubs in Tampa, Miami, La Habana, Mexico City and Monterrey. Al Lunn himself, as president of the Alumni Association, was also in Mexico City and Monterrey during April.

Ralph Ross and Bill Seymour have both departed from the Chicago locale — Bill to Holliston, Mass., and Ralph to East Orange, N.J. A new address for Ed Raymond is Palos Verdes Estates in California.

The following members of the Class have been noted as taking the following steps up the ladder of success: John Ellithorp, who has worked for only one company in his career, Beech Nut Packing Company, recently became president after 33 years' service; George Paine is now vice-president in charge of operations of the American President Lines; and

Walter Beadle was recently elected a director of the Philadelphia National Bank. — **RAYMOND STEVENS**, *Secretary*, Arthur D. Little, Inc., 30 Memorial Drive, Cambridge 42, Mass. **FREDERICK BERNARD**, *Assistant Secretary*, 24 Federal Street, Boston 10, Mass.

• 1918 •

Frank R. Creedon gets into the news with more regularity than many of us. His newest assignment is head of the new Bureau of Facilities and Construction with the National Production Authority. It's an important post, but not the most important one in which Creedon has served with such conspicuous success that he's a Medal of Merit man. This distinction came to him for outstanding service as the engineer who directed the construction of the first atom bomb plant at Oak Ridge, Tenn. At another time, Creedon's energy stepped up the production of synthetic rubber amazingly when the need for it was greatest. He was later national housing expediter.

William P. Fisher, who once enjoyed running on the class relay team, has just been appointed manager of industrial sales by the Du Pont Company of Wilmington, Del. He joined Du Pont at Parlin, N.J., as a chemist in 1926. From 1933 to 1947, Fisher was stationed principally in the Chicago region, as industrial salesman, supervisor, and regional manager of industrial sales. He came to Wilmington in 1949 as assistant manager of industrial sales of the Finishes Division. Where he will run from there on the Du Pont relay team only time will tell. — **GRETCHEN A. PALMER**, *Secretary*, The Thomas School, The Wilson Road, Rowayton, Conn.

• 1919 •

In an open letter to the Worcester *Tel-gram*, which appeared in the March 10 issue, Roderic L. Bent puts his best foot forward as a skiing enthusiast having had 12 years of this sport in the larger areas of New England. His comments are noteworthy and he sums up his letter as follows: "Since World War II, I have filled my car innumerable times with enthusiastic skiers, most of them G.I.'s, and could give you any number of stories of the fun and good sport on the different ski areas." He also mentions that his son, Gardner, (M.I.T. 10-44) follows this same sport line. — Hearty congratulations are extended to Charles A. Chayne, chief engineer for General Motors, for his "Dream Car" design of the new Buick. The two-seater, convertible XP-300 was unveiled at Chicago's auto show during the latter part of February.

A very interesting write-up regarding our classmate, Edith Clarke, appeared in a recent issue of the Austin, Texas, local newspaper. A few excerpts taken from this clipping follow: "Because the idea of retirement just didn't take, Edith Clarke, famous woman engineer has found new plaudits and a new career. After her retirement as consultant and research engineer for a big electrical equipment manufacturing company, she accepted an invitation in 1947 to spend a few months at the University of Texas as

a visiting assistant professor. Today she is still there, and in the intervening years, probably has won more honors than any other U.S. woman engineer, as well as completing a technical textbook, *Circuit Analysis of A-C Power Systems*, the second volume of which has just been published. In 1948 Miss Clarke became the first woman fellow ever elected by the American Institute of Electrical Engineers. In 1949 she was the first professional woman engineer ever to receive the 'Woman's Badge' of Tau Beta Pi, national honorary engineering fraternity, and was elected to Eta Kappa Nu, honorary electrical engineering society. Her plans to 'settle down' on her Maryland farm seem definitely shelved. Miss Clarke explains what changed her mind: 'Students and their point of view.' She says: 'You can say I've settled down in Texas.' Miss Clarke flouted tradition back in 1911 by studying engineering at the University of Wisconsin then went to New York to do computing work for a research engineer of the American Telephone and Telegraph Company. Later she received a master's degree in electrical engineering at . . . Technology. She worked for the General Electric Company from 1919 until July 1945, when her 'retirement' plans began. In between times she managed to play championship tennis and was an adept swimmer, skier and skater."

Congratulations to our classmate Elliot D. May on his reelection to the Winchendon School Committee. He is also chief engineer of Baxter D. Whitney and Son, Inc., machinery manufacturers, and a member of the Gardner, Mass., Chamber of Commerce. — We learn from Carl G. Polson that he is now superintendent of distribution at the Brockton Edison Company, Brockton, Mass., having been with this company more than 30 years. One of his sons is at OCS Army Training and the other in his second year of college.

Frank Reynolds is kept busy at Bird and Son directing research on products concerned with paper, floor covering and building materials. He gets over to M.I.T. once a month to the Research Director's Club and confesses that he gets lost when off the familiar track around the older buildings. His youngest of four children just completed her undergraduate work in occupational therapy, and the two boys are — chemist and civil engineer. He is also kept busy at times babysitting for his four grandchildren. — Since December, Edward A. Richardson has been located in his new home at 3015 North Center Street, (RD 2), Bethlehem, Pa. After a siege of pleurisy, he is now in tiptop shape. For the term of 1950-1953, he is secretary of the M.I.T. Club of the Lehigh Valley and also manager of the ASME LV section at Bethlehem.

We should all sit up and take note of the following up-to-date report from our classmate, Ed Scofield: "In these days of crises, H bombs, NPA, and so on, prosaic news of the oldsters of '19 seems scarce worth wasting paper. However, so far as I know, I do not have a 'heart,' or high blood pressure or any other occupational disease. I have all my hair, all my teeth — but one — and try to get along without another pair of eyes. Also, I am not a mil-

lionaire — neither do I live on relief; have only been married once and most satisfactorily; and in general have had such a good life that even the current economic and political hubbub fails to dim. We had hoped to send our son to M.I.T. but with the current wages of engineers, we are considering (1) Gambler (2) Politician (3) Government Lawyer (4) Doctor (5) Plasterer (6) Plumber, and so on. Anyway, we are not concerned at present as he is struggling with the second grade."

In a recent memo from Dutch (Edgar F.) Seifert, he writes: "If I told you all the chemical monkeyshines we are working on in pilot plant operations, you'd get the jitters. There's no dearth of operational headaches in the chemical processing industry and we are in the midst of quite a few of them." — **EUGENE R. SMOLEY**, *Secretary*, The Lummus Company, 385 Madison Avenue, New York 17, N.Y.

• 1920 •

I am sure I can speak for every one of us when I say how pleased and proud we are to have a 1920 man as president-elect of the M.I.T. Alumni Association. To readers of *The Review*, this will not exactly be news because undoubtedly you saw the very good picture of Al Glassett in the March issue. Speaking as one who has worked with Al on various M.I.T. alumni committees and on our 30th Class Reunion Committee, I can assure you that we are going to be very proud of his handling of Alumni Association affairs. Al is an exceptionally able executive and administrator as well as being an all-around good fellow and one of the most popular members of our Class. More power to you, Al, and the best of good fortune in your new duties and responsibilities.

Roger McNear has been made managing director of the North British Rubber Company, headquarters at Edinburgh. Roger has had wide experience in the rubber industry in this country, having been connected with United States Rubber Company since 1933. At one time he was factory manager of their tire plant at Detroit, sales manager for the Pacific Coast, and assistant to the president. — It is a pleasure to report that Bill Freeman is back in this country after more than two years in Paris with the Emergency Procurement Service at the American Embassy, during which time he visited every country in Europe and had many interesting experiences. Bill will be stationed in Washington again and will live at his country place in Virginia — Runnymede Farm, R.F.D. Number 1, Vienna, Va. We shall certainly count on his being at the next class reunion.

Bink Carleton is now in Clarksdale, Miss.; address, 108 Elm Avenue. Charlie Moore is at Palos Verdes Estates, Calif. Bob Gleason has left Needham, Mass., and is in Dobbs Ferry, N.Y.; address, 297 Palisades Avenue. Austin Higgins, our globe-trotting colonel, has a new address, Second Logistics Command, A.P.O. Number 59, in care of Postmaster, San Francisco. Don Graves is now in Los Angeles; address, 512 North Normandie Street.

It is with sorrow that we report the untimely death of Earle F. Watts, Associate

Professor of Drawing and Descriptive Geometry at M.I.T. Earle had been with the Institute for 26 years and was Executive Officer of the Section of Graphics. He lived in Scituate and leaves a wife, daughter, and son. — HAROLD BUGBEE, Secretary, 7 Dartmouth Street, Winchester, Mass.

• 1921 •

Next month marks the 30th anniversary of our commencement, on June 10, to be exact, and everyone is looking forward to the four-day celebration of the event. You now have received the reservation application and related information on the reunion party which extends from Friday through Sunday, June 8, 9 and 10 at the Sheldon House in Pine Orchard, Conn. With 108 probable attenders at this writing, your application should be returned promptly to make certain of a reservation. Monday, June 11, will be spent at Cambridge in observing the annual Alumni Day events, which include our ever-popular class gathering, scheduled to be held this year at the Copley Plaza in the afternoon just preceding the stein-on-the-table banquet at the same hotel. Transportation from Pine Orchard to Cambridge will be arranged for those who request it. Look for the notice of the exact time and room number of the Alumni Day class meeting on the bulletin boards at the Copley and on the Institute's class registration list in the lobby of the Architecture building at 77 Massachusetts Avenue. No advance registration is required for the Monday class meeting but reservations for the other Alumni Day events should be arranged directly with the Institute right now to insure that you are seated with the Class at the banquet. Chairman Irv Jakobson of the reunion committee wants to remind you of his invitation to sail your boat to the anchorage in front of the Sheldon House and the arrangements to take those of the Class who wish it on a short trip on the Sound during the reunion. Jake, Trev Peirce of Philadelphia and Dick Spitz of New York are known to be among the group who are coming via their own craft. Write to Jake for information on charts, moorings, and so on. Bob Miller, our photo-historian, will have the movies and slides of past events and requests that you bring similar reels or transparencies for projection at the same time. Your Secretary asks that you complete and return the questionnaire form included with each of the first two mailings, in order to help him maintain Technology and class records.

Added to those listed in the last five issues of The Review and in the reunion mailing, the following also indicate probable attendance: George Chutter of Portland, Conn., Fritz Ferdinand of Milton, Si Freese of Fort Worth, Texas, Johnny Mattson of Winthrop, and Dick Spitz of New Rochelle, N.Y. Chut has his own sales engineering firm, handling heat treating and related equipment, with headquarters in Jersey City, N.J. A former president of the M.I.T. Club of Northern New Jersey, he is active in the American Ceramic Society, the Sales Executives Club and the American Society for Metals. The Chutters have three sons, Raymond, Lehigh '49; Reinald, University of

Pennsylvania Dental School '54; and Roger in grade school. Fritz Ferdinand is president and general manager of the Joslin Show Case and Fixture Company, Boston. He reports seeing Warrie Norton and Al Kiley recently. Son Paul is a sophomore at Boston University and Warren is in high school. Si Freese is a partner in the hydraulic and sanitary engineering firm of Freese and Nichols. He is also president of the school board of the Fort Worth Independent District and a member of the American Society of Civil Engineers, before which he has presented several technical papers. He and Mrs. Freese have a married daughter, a Wellesley graduate, and two sons, John, a junior at Williams, and Lee in high school. John Mattson is a title examiner and consultant on legal and technical matters for the Commonwealth of Massachusetts, Boston. Following graduation from Technology, he obtained a law degree at Northeastern and is a member of the Massachusetts and Boston Bar Associations, a director of the International Institute of Boston, chairman of the Winthrop School Committee and a former member of the Winthrop Town Meeting for 11 years. Once a vice consul for Finland, he is active in the American Legion as a bandmaster and choral conductor. The Mattsons have two daughters who were graduated from Radcliffe, two sons now at M.I.T. and respectively a junior and a freshman, and a year-old granddaughter. Dick Spitz is sales manager of Newport Industries, Inc., New York, and active in the Paint and Varnish Lacquer Association. He is an ardent sailor and says he will pilot his boat into Pine Orchard with Cap'n Jakobson's regatta. Daughter Margot is married. Suzanne was graduated from Cornell.

John J. Healy, Jr., assistant general manager of the Merrimac division, Monsanto Chemical Company, Everett, Mass., was a welcome visitor to your Secretary's offices during the New York convention of the Technical Association of the Pulp and Paper Industry, and a representative of the Class at the annual M.I.T. luncheon of "TAPPI" delegates. Jack is a member of the American Chemical Society and former councilor and chairman of its northeastern section, a director and former chairman of the Boston section of the American Institute of Chemical Engineers, chairman of the New England chapter of the American Institute of Chemists and active in the Society of Chemical Industry and the Engineering Societies of New England. He is the author of a large number of papers published in technical journals and has five major patents on paper and metallurgical processes. He is married and has no children. Irving D. Jakobson, the hard-hitting chairman of our 30th reunion committee, is president of the Jakobson Shipyard, Inc., Oyster Bay, N.Y., builders of the finest in commercial and pleasure craft, and president of the Thordan Land Corporation. Jake is a director of the North County Community Hospital and a member of the Manhasset Bay Yacht Club, the Seawanhaka-Corinthian Yacht Club, the New York Yacht Club and the Cruising Club of America. He and Mrs. Jakobson have an eight-year-old son, Peder.

Antonio H. Rodriguez of Havana, who hasn't missed a reunion or Alumni Day for many years, is president of the San Augustin Sugar Company, Inmobiliaria Italica S.A., and the Cuban Association of Sugar Refiners as well as treasurer of the board of the Cuban National Theatre, a member of the American Chemical Society, the Cuban Society of Engineers, the Havana Yacht Club and Havana Country Club. Helier writes that he and his charming wife, Graciela, spent several days in Manchester, Conn., following last Alumni Day, visiting the St. Laurent and Silverstein families, and then stopped in New York to see suppliers for his new home and new theatre, the seventh of a chain under his control. This is in addition to his duties on the committee in charge of the construction of a national theatre, for which the Cuban Government is appropriating a large sum. He is a former president of the M.I.T. Club of Havana and is the local Honorary Secretary of M.I.T. Recently he has been a consultant to the Cuban Minister of Commerce in connection with the distribution of sugar.

Laurence O. Buckner of the Metropolitan Edison Company, York, Pa., has written a letter of thanks to those working on class affairs and an appreciation of our 30 years of biographing for these pages. Of himself, he says, in part: "My first job was inspecting high-voltage transmission line construction in the Carolinas with my brother member of Course VI-A, Phil Coffin. Later I went to Pittsburgh for electric refrigeration sales when it took \$500 to install a unit in an ice box. Next to New York to sell potash, for which my having been raised a farmer's boy was the background. But my boyhood dreams about electricity were not satisfied until I heard about power sales. For 22 exciting years I shut down steam engines and applied motors, lighting, heating and related equipment. It was wonderful but perhaps I was not thankful for the many blessings.—satisfying work, lots of friends, a good home, a fine wife and son in the most wonderful country on earth. It seemingly took the death of my wife in 1948 to teach me that. Now, in just over two short years, I am truly blessed with a fine new wife and a new job, sales manager with 40 men to provide the wants of 70,000 customers for electricity." Buck's son is a senior at Allegheny College.

Frederick S. Dellenbaugh, a colonel in World War II and since then with the Reeves Laboratories, New York, is now at the Redstone Arsenal, Huntsville, Ala. P. Exton Guckes is concentrating his activities on the Passmore Lumber Company of which he is president, and is now living in Camden, Maine. Lewis W. Moss has left Columbus and has a new home near Bill Loesch at 21223 Erie Road, Rocky River 16, Ohio. Alfred J. Shaughnessy has transferred his activities with the Hertz Drivurself System, Inc., to their Chicago office after many years with the company in Pontiac, Mich.

Boris V. Korvin-Kroukovsky has moved from Whitestone, L.I., to a new home on Monticello Road, R.D. Box 122, Suffern, N.Y. Addresses have also been received for Thomas P. Campbell, Robert M. Felsenthal, Charles W. Maloney, Frederick N.

Morgan, Professor Lee J. Purnell and and William H. F. Rose, Jr. Mail has been returned for Colonel Robert A. Hill, formerly in the Research and Training Publication Department, Engineer School, Ft. Belvoir, Va., and Lemuel Pope, formerly of Pasadena, Calif. We will appreciate receipt of their new addresses.

Jackson W. Kendall, Vice-president of Bekins Van Lines Company, Los Angeles, Calif., writes, in part: "Unfortunately, I represent several of the western household goods carriers at the Western States Movers' Conference, held in the west each year during the first two weeks in June. Since this conference was my brain child, attendance is a must but you can be assured I'll attend the 30th reunion if something will break that will permit me." Jack says he is traveling a great deal in connection with legal details of his company's expansion, as a member of the transportation committee of the California Chamber of Commerce and as an officer of several trade associations. He has served on the City Planning Commission of his home town of Pasadena, on the Republican county committee and as a director of the Pasadena Tournament of Roses and the annual Rose Bowl game. Both Jack, Jr., and Robert are studying engineering at Stanford. John B. Starkweather '22, Vice-president and Manager of the Starkweather Engineering Company, Newtonville, who entered the Institute with us, has written a welcome letter in which he says he occasionally sees Mich Bawden.

Leonard R. Janes, development engineer with Public Service Company of Northern Illinois, Chicago, is a coauthor of a paper on "Interrupting Ability of Horn Gap Switches," appearing in the February issue of *Electrical Engineering*. Augustus B. Kinzel, President of Union Carbide and Carbon Research Laboratories, Inc., and the Electro Metallurgical Company, New York, gave a talk on metal problems in internal combustion engines to the conference of the Technical Societies Council of New Jersey in Newark. S. Paul Johnston, Director of the Institute of the Aeronautical Sciences, New York, spoke on "A Look Ahead in Aviation" at a meeting of the New York Electrical Society. Edmund S. Whitman, advertising manager, United Fruit Company, New York, is the author of a note to the editor of the New York *Herald Tribune* to the effect that those near forested areas may banish alarm clocks and observe "crowtime, U.S.A." precisely at 5:45 A.M.!

Charles F. Baish, a colonel, Corps of Engineers, who was welcomed last fall as professor in charge of the Military Science Department at Technology, says he is looking forward to attending his first reunion. A member of the Regular Army who received his degree in Course I with us, he was most recently chief of the Manpower Division, Industrial College of the Armed Forces in Washington. He and Mrs. Baish have four children and four grandchildren. Two daughters are married; a son, Charles F. Baish, Jr., was graduated from West Point in 1950 and the youngest daughter, Olivia, is in school in Belmont, where the family resides. Henry duPont Baldwin is president of the

Personal Vending Service, Inc., Baltimore. He lists sailing as one of his hobbies and we hope he will join Irv Jakobson's fleet heading for Pine Orchard. Daughter Mary was graduated from Vassar last June and Henry is a freshman at Princeton. Oliver L. Bardes and Miles Zoller will represent the Cincinnati portion of the Class at the reunion. Ollie is president of the Bardes Forge and Foundry Company and owner of the Cincinnati Elbow Company. The Bardes' have four children, two sons, Oliver and David, and two daughters, Merilyn and Mary Britain.

John W. Barriger will help celebrate our reunion and observe his fifth anniversary this year as president and director of the Chicago, Indianapolis and Louisville Railway Company, the Hoosier line popularly known as the Monon. In demand as a public speaker and a frequent contributor of railroad articles to various publications, he broadcast a delightful Christmas message on the heritage of America and then made public his observations on 1951 which said, in part: "Trouble 'Made in Moscow' is exerting an increasing influence upon the life and business of every American. The job ahead is to provide 'guns and butter' for the U.S., with an excess to meet the needs of friendly nations which have the will and character to resist Soviet aggression. American business, with adequate cooperation of labor and government, can do the job. Given access to materials and equipment, the railroads will meet whatever eventualities the future may hold for them. Challenges of capacity and efficiency have always been those which American railway management has met most successfully. It will do so again and thereby strengthen the foundations for continued rapid progress in the years after the menace of communism has passed and peace returns to America." Jack is also a director of the Chicago and Western Indiana Railroad, the Belt Railway of Chicago and the Kentucky and Indiana Terminal Railroad. He is a past president of the M.I.T. Club of Chicago and chairman of a regional committee of the successful M.I.T. Committee for Financing Development. His memberships include the Newcomen Society, American Society of Civil Engineers, American Society of Mechanical Engineers, American Railway Engineering Association. He has served the Community Chest, Presbyterian Hospital and the Indiana Republican Finance Committee. He says travel and photography are his chief recreations and reports seeing Frank Blewer, Ralph Cooper and Jack Rule on recent trips. Jack and Mrs. Barriger have four children. John, 4th, was graduated from Technology in 1949 and received a degree at Yale last year. Betty is at St. Louis University, Ann at Wellesley and Stanley in high school.

Thomas W. Bartram, research chemist of the rubber service division, Monsanto Chemical Company, Nitro, W. Va., plans to attend the graduation of son Tom, Jr., from University of Virginia Law School and then come to Pine Orchard. Young Tom was graduated from Bucknell in 1948. He is married and has a son. Nancy was graduated from Wellesley and is married to Norman Beecher '44. She and her husband were the subject of a recent arti-

cle in *This Week* magazine on their activities as teachers abroad. Garvin Bawden of the reunion committee is sales manager of printing and binding machinery, Dexter Folder Company, Boston. Daughter Nancy, who attended Smith College, is married and has two children. Garvin, Jr., attended M.I.T. and Dartmouth. He is married and has a son. Edward W. Booth is sales engineer, Industrial Division of the New England Insulation Company, Boston. Scripps says he will be on hand in June.

J. Ernest D. Clarkson is operations engineer, supervising steam generation and distribution, Atlantic Refining Company, Philadelphia. He is married and has no children. John S. Cummings is project manager on financial and appraisal matters for Jackson and Moreland, Boston. He and Mrs. Cummings have a son, Bruce, aged 10. Benjamin Fisher is assistant secretary and assistant treasurer, Kendall Company, Walpole, and a director of the Financial Publishing Company. He is a member of the American Society of Corporate Secretaries and a director of the New England Hospital for Women and Children, Boston, and the Dedham Federation, Inc. The Fishers have two sons, Stephen, aged three, and Andrew, who is a year old. Harry A. Goodman is a consultant on life insurance, taxation, wills and trusts with his own office in Boston. He is a member of the Trust Council of Boston. He and Mrs. Goodman have two daughters, Charlotte, who attended Boston University, New Hampshire and Middlebury and is married, and Sheila, who is in grade school.

Ralph and Mrs. Shaw and daughter Mary were in Geneva as the last installment ended. Rufe continues: "From Geneva, the boat ride up Lake Lemman is lovely. We got to Montreux that evening and the weather was magnificent. A swim in the lake and a visit to the Chateau Chillon exhausted all that Montreux had to offer. The ride to Interlaken was on another paying narrow gauge with a cog. It was interesting to see them handle a freight train. They have a dolly truck that holds a standard freight car. An electric locomotive hauls a train of about 20 cars to a flat spot before the grade and engages the cog. Another locomotive pulls out of a siding, couples onto the rear and engages the cog. The chief hog-head toots his little whistle twice and gives her the gun. Away they go, up a fifteen per cent grade. We climbed the Jungfrau on the funicular, another three-phase masterpiece made in Switzerland. Lucerne, the clock town, was the end of our trip. I was getting restless for work so I took a day off and went to Zurich to call on some machine tool houses. I saw tools there that I did not believe possible. The Swiss make machinery like they make watches. Here we use hydraulic cylinders to move heavy equipment, but in the Oerlikon Works if the pressure of two fingers won't move 20 tons there is something wrong with the bearings. But the price is out of this world. An engine lathe that costs \$15,000 here will cost \$20,000 in Switzerland, plus the freight." (Concluded next month.)

It is with heavy heart that we record the passing of members of the Class and

extend sincere sympathy to their families. Mrs. Richard Warren Sears, 2d, of Evanston, Ill., informed us of the death of her husband January 8, 1949. No details are available. Ira Payne Jones, Sr., construction engineer, died at his home in Nashville, Tenn., on March 30, 1949. Born March 26, 1895, in Nashville, he attended Vanderbilt and was graduated with us in Course II. A member of Phi Delta Theta and the Mechanical Engineering Society, he was a veteran of both World Wars, being discharged with the rank of captain after four years of service in the Corps of Engineers in the last war. Formerly with the Kirkpatrick Lumber Company, he had for many years been associated with the contracting firm of C. B. Kelley and Company. He was an elder of the Presbyterian Church, a 32d degree Mason and a member of the American Legion. He is survived by his widow, his father, a son, Ira Payne Jones, Jr., of Hampton, Va., a sister and brother. We are indebted to Mrs. Jones for data to prepare these notes.

Melville Johnston Marshall, noted Canadian chemist and chairman of the department of chemistry of the University of British Columbia, Vancouver, died on October 22, 1949. We wish to thank Dr. Norman A. M. MacKenzie, President of the University, for the following biographical notes. Born October 18, 1891, at Kingston, Ontario, Dr. Marshall received the B.Sc. and M.Sc. degrees from McGill University and the Ph.D. in Course V with our Class. He had received the British Association Bronze Medal, the Governor-General's Medal and was a Du Pont Fellow at Technology. He taught at McGill and was a research chemist for Canadian Chemicals, Ltd., and chief research chemist for the Shawinigan Light and Power Company before becoming a professor at the University of British Columbia in 1921 and head of his department in 1948. He was elected a Fellow of the Royal Society of Canada in 1944. The author of many papers, some in collaboration with Emeritus Professor F. G. Keyes of Technology, he was an authority on distillation and the adsorption of gases through solids. He was married to Florence Pepper of Malden, Mass., in 1925. He is survived by his former wife and a daughter, Shirley Jane Marshall of Los Angeles.

John Abbot Facey, manufacturers' representative for heating and ventilating equipment, died at his home in Springfield, Mass., on January 15, 1951. Born August 7, 1900, in Cambridge, Jack prepared at Cambridge Latin School and was graduated with us in Course II. During our undergraduate days, he was a member of the Mechanical Engineering Society, the Catholic Club, and the T.C.A. A runner of note, he was associated with the New England Amateur Athletic Union. Besides his wife, he leaves his mother, three brothers, three sons and a year-old grandson, the son of John A., Jr. Son Edward C. Facey is a junior at Technology and Jerold is at home. A note from Jack last October indicated that he intended to be present at the reunion and his many friends will miss him.

Philip Willistine Clark died on February 9, 1951. Orville B. Denison, thoughtful Secretary of the Class of 1911, kindly

sent a clipping from the *Boston Herald* and Irv Jakobson and Miss Walker of the Alumni Register have supplied further information. Phil and Mrs. Clark had purchased a 20-room inn, known as Serenity Hill, in Naples, Maine, and operated it as a summer resort and antique shop. While Mrs. Clark was in a Portland hospital recovering from an operation, Phil left his work at the Portsmouth Navy Yard to repair reported damage done to the inn by a severe winter storm. He telephoned the report of a chimney fire and firemen arrived in sub-zero weather to find the building a mass of flames. Phil was trapped by the fire which razed the inn. A native of Melrose, where he was born May 31, 1898, Phil prepared at Melrose High School. At the Institute he was a member of the Naval Architectural Society, the Glee Club and the crew. Following graduation in Course XIII, he was associated with the Bethlehem Shipbuilding Corporation, Quincy, and later with the Cramp Shipyard, Philadelphia. He served on the faculty of Lehigh University and was an executive of the Electric Boat Company. He had been an architect with the U.S. Public Health Service and a planning and research analyst with the War Department, Transportation Corps Board, Brooklyn Army Base. He was a member of the Society of Naval Architects and Marine Engineers, the U.S. Naval Institute, American Society of Naval Engineers, Traffic Club of New York, American Association for the Advancement of Science, U.S. Army Transportation Association and the Westerly, R.I., Yacht Club.

Rush that reunion reservation request back at once to be sure of accommodations next month. Please return the completed questionnaire whether or not you will attend the reunion. — CAROLE A. CLARKE, *Secretary*, International Standard Trading Corporation, 67 Broad Street, New York 4, N.Y.

• 1922 •

Dale Spoor has gone on leave from the Air Reduction Company to act as head of the welding section of the National Production Authority in Washington. His complete and imposing title is: Chief of Welding Section of the Metals Working Branch, of the Machinery Division, of the National Production Authority, of the Department of Commerce, of the United States of America. He and Mrs. Spoor have taken an apartment at 2649 Woodley Road, N.W.

William W. K. Freeman's daughter Susannah Budd was married to Dr. Richard Alan Prindle on March 17 at the First Church in Salem. Theodore Elliott's daughter Jennie Lou was married in Winchester last December to William Brackett. Dave Abrahams, whose commercial architectural work has been so successful in New England, spoke recently at a meeting of the Scissors and Paste Society in Wellesley Hills on the subject of "The Houses of Today and Tomorrow" which he illustrated with numerous slides. Paul J. Choquette of the General Dyestuff Corporation spoke on current trends in dyeing synthetic fibres at the January meeting of the Rhode Island section of

the American Association of Textile Chemists and Colorists held at the Providence Engineering Society. Choquette is the research co-ordinator for his firm.

Eric Hodgins, author of the best sellers, *Mr. Blandings Builds His Dream House* and *Blandings' Way*, has been appointed by President Truman to be a member of a five-man Materials Policy Commission. An article in the *Boston Globe* by the well-known reporter Otto Zausmer tells about a five-year reclamation project in Galilee to cost ten million dollars which will be under the direction of E. Berech-yahu whom many of the Class will remember as Elhanan Borucov. After Borucov graduated in 1922 he remained in the United States until the late 20's working part of the time for the city of Manchester, N.H., on its sewage system. He has been working on the present undertaking for a number of years and the actual development will now soon get under way. — C. YARDLEY CHITTICK, *Secretary*, 77 Franklin Street, Boston 10, Mass. WHITWORTH FERGUSON, *Assistant Secretary*, 333 Ellicott Street, Buffalo 3, N.Y.

• 1923 •

There will be a get-together of the Class at the Copley Plaza Hotel at five o'clock on Alumni Day, Monday, June 11. A short business meeting will be held.

C. A. Clarke, Secretary of the Class of '21, has brought to my attention a clipping from the Newark, N.J., *Evening News* of February 12 in which it was announced that Professor Daniel C. Sayre has been appointed director of the newly established James Forrestal Research Center at Princeton University. Professor Sayre has been chairman of the Princeton department of aeronautical engineering since its establishment in 1942. — Rear Admiral Calvin M. Bolster is assistant chief of the Bureau of Aeronautics for Research and Development. In 1949 he was awarded the Robert Goddard Memorial Medal for his work in liquid and solid propellant rockets. His experimental work has included jet assisted take-off equipment, catapults, arresting gear, airplane hook-on equipment, and helium repurification. In February, he spoke at Norwich University, Northfield, Vt., on "The Assisted Take-off of Aircraft."

John E. Burchard has been elected a member-at-large of the American Council of Learned Societies. The Council is made up of 24 delegates of the constituent societies plus eight members-at-large. — In February, a UP feature story on women in architecture named Ida B. Webster as a leading woman architect who has her own office and builds everything from dairy barns to police stations. She is quoted as saying she also runs a 12-room apartment, is bringing up two children and has managed to keep her husband. She said she decided to become an architect after watching her father put up a housing project on Long Island. She decided then and there she could do better with her eyes closed.

I regret to report the death on January 28 of Earl S. Clark of Arlington. He had been for many years sales representative in New England and New York for the Hollingsworth and Vose Company of East

Walpole, paper manufacturers. He was a director of the Arlington National Bank, Rockwood Paper Corporation and Robert M. Stone Insurance Agency, Inc. He leaves his wife, Mrs. Muriel B. Clark, a son and a grandson. — HORATIO BOND, *Secretary*, National Fire Protection Association, 60 Batterymarch Street, Boston 10, Mass. HOWARD F. RUSSELL, *Assistant Secretary*, Improved Risk Mutuals, South Broadway, White Plains, N.Y.

• 1924 •

Let's start off this month in a big way by introducing you to three new presidents, President Edward J. Hanley of Allegheny Ludlum Steel, President Blaylock Atherton of the New Hampshire Senate, and President John F. Hennessy of the New York Association of Consulting Engineers. All three took over the first of the year. Congratulations all around!

Ed Hanley has been with Allegheny Ludlum since 1936. After graduation he went up the river, to Harvard Business School that is, then joined G.E. in Schenectady, where he became Assistant Superintendent of the Wire and Cable Department. As a steel man Ed has been successively secretary, treasurer, vice-president in charge of finances, and executive vice-president. Maybe some of you saw his picture in a recent issue of *Fortune*. They missed a bet by not running it in color.

As for Senator Atherton, it's difficult to tell whether he is an insurance man or a politician — or rather, at that level, a statesman. Blay has been in the insurance business in Nashua ever since 1926. His entry into politics came somewhat later, but he has filled a most impressive number of offices. He served six terms in the New Hampshire House before going to the Senate in 1943. One of his little duties in his present post is to take over for the governor when he's out of the state. That happened recently. So the Class now has its first governor — as yet only acting, but who knows what the future may bring? Blay is costing the Institute's clipping service a good deal of money these days. He continues to pop up in the news with some regularity, as befits a Senate president. Here he sponsors a Y.M.C.A. youth government program; there he is the subject of a feature story, "Atherton Boasts Background of Legislative Know-How." Here's hoping he doesn't get on any crime investigating committees. His pal, Senator Tobey, would have broken the bank!

Jack Hennessy, having completed the first and major unit of the United Nations buildings, evidently had so much time on his hands he looked around for something to keep him busy; and he was elected top man of New York's consulting engineers. That's no mean honor and Jack richly deserves it, according to the reports of all the other '24 men who have worked with him through the years.

From Stamford, Conn., comes the news of a unique venture. Berton Benjamin is operating a private ambulance and oxygen service. With two ambulances and five oxygen therapy technicians he takes care of all the needs of one hospital, acts as a "back up" for several more. A relatively new venture, Benjamin started it after he

had spent 22 years with Westinghouse.

A newspaper report of a recent meeting in Worcester at which Dr. Hudson Hoagland, Executive Director of the Worcester Foundation for Experimental Biology, described the work of his organization, evidently left the reporter, at least, gasping. "The work is so highly technical that it is difficult for the layman to understand. . . ." However, he did get the point of the "high tributes paid to (it) by distinguished scientists and by scientific and medical organizations." Principal work of the Foundation; use of hormones in the fields of cancer, mental diseases, and arthritis.

FROM PAW TO PAD. That's what has happened to E. Oliver Jones, Jr. In World War II, Ollie spent a couple of years in Washington in the Petroleum Administration for War. After a bit of time out for his regular work, manager of marketing analysis for the Ethyl Corp., the call has come again. Back to Washington he goes, this time with the Petroleum Administration for Defense. Let's hope he won't be working for PAW again.

We told you about Sam Zerkowsky and his new estate down in Louisiana. Now it appears he's not just going to ride to hounds on those extensive acres, he's planning on making them pay off. Any time you happen to be driving through Slidell, La., stop off and take home a tree from the Tammia Nursery, S. Zerkowsky, Prop. Paul Keppler, a New Yorker from way back, has fallen for the lure of the Golden West. New Address, Salt Lake City. And Jack Byrne, Executive Engineer and Director of the Bechtel Corporation, has left the Los Angeles smog behind him by moving up the coast a bit. It's San Francisco now. Gordon Crabb, mechanical engineer in the Canal Zone for the past ten years, is back again. No information on what he's doing, but Massapequa, Long Island, is his new home town.

DEPARTMENT OF DELAYED INTELLIGENCE: Out of the blue, a couple of weeks ago, appeared one of those questionnaires we sent out back in 1948 (deadline March, 1949) for our 25-year report. Remember? William S. Hawley was with us for two years, then went on to graduate from Trinity in 1924. In Los Angeles for some time, he is now senior credit analyst with the California Bank. After retirement at 65, Hawley expects to open his own office as a C.P.A. May not have been quite in time for the book, but it's very welcome grist for an editor turned columnist. Any of you who still have one of those kicking around, go thou and do likewise. Or make up your own. It's the end result that counts.

Here's one in the line of coincidences that just can't happen. Phil Cohen, who heads Sturtevant's air-handling apparatus sales, was in Cleveland recently. In spite of 20 years he spent in that city, he got lost in Shaker Heights one night while trying to locate a friend. As he approached a house to get straightened out, the door opened and a couple came out. In the darkness Phil asked directions, and the more the man talked the more familiar he sounded. His voice "rang of M.I.T." says Phil. Maybe you hadn't realized there is an M.I.T. accent! To make a long story short, it was none other than Bill Robinson, and a '24 reunion was held on the

spot. Phil doesn't go on to say whether or not he ever found his other friend, but our reunions being what they are, we doubt it.

Paul Kusnitz, "lost" when our 25-year book came out, has turned up at last. He's out in sunny California, Los Angeles to be exact — if you can call that being exact. Newly appointed head of the Rhode Island civil defense communications services is John B. Gegan. Johnny, a colonel on Patton's staff during the war, is commercial engineer for the New England Telephone and Telegraph Company in Providence.

"Miss Mary Frances Holter, daughter of Mr. Edwin Olaf Holter of New York and the late Mrs. Sarah Sage Holter, was married to Mr. Carlo Vicario on Sunday in this city." The Sunday was in January, the city, New York. Our best wishes to you, Vic. Carleton Shugg, a graduate of the Naval Academy, got his master's in Naval Architecture with our Class. An expert on submarines, he left the Navy in 1929, went back to shipbuilding during the war, became general manager of the Todd yards in Hoboken. In 1947 he joined the AEC as manager of the Hanford plutonium works, was later named acting general manager of the commission. All this history leads up to the fact that in January he resigned his Washington post to become assistant general manager of the Electric Boat Company in Groton, Conn. When atomic powered subs become a reality, a '24 man will have had a major role in their development. You undoubtedly saw that Jimmy Doolittle is back in uniform again, this time to head Air Force research and development work. Who knows, maybe if an atomic plane ever gets in the air, a '24 man will have been responsible for that, too.

Russ Ambach forwards a program of a joint meeting in February of the ASE and AS Tool Engineers in Cleveland. Headlined was Eric R. Brater, assistant chief engineer, Cleveland Diesel Engine Division, General Motors. His subject "Torsional Vibrations in Diesel Engines." Maybe you saw somewhere that Professor Martin J. Buerger, top x-ray crystallographer, had photographed an atom for the first time. It was widely published. This spring Martin is going to Europe; will look over the work of some of his colleagues on the continent.

FLASH: Here's real news, just in as we go to press. Born, to the William H. Robinsons, a daughter, Virginia Katherine Robinson! That ought to keep Bill in (and up) nights for a while. Don't know whether or not our Class is establishing a record, but four new offspring reported so far this season ought to put us in the running for some sort of a prize, considering our advanced years. In any event, the heartiest congratulations of all of us to the Robinsons. — HENRY B. KANE, *General Secretary*, Room 1-272, M.I.T. Cambridge 39, Mass.

• 1925 •

Newspaper clippings account for much of this month's news. Raymond E. Lucey, II, has been elected a vice-president of the Trane Company with headquarters in La Crosse, Wis. He joined the company

upon graduation and has been with them since, except for one year's absence due to illness in 1933-1934. He has served progressively as assistant manager, eastern division sales manager, New York sales office; manager of fan and heating coil sales and manager of product development. At present he is manager of product development and chairman of the development committee that has co-ordinated the manufacturer's postwar expansion in air conditioning units and systems, refrigeration, fans and industrial heating.

Arnold B. Bailey, XV, has just written a book, *TV and Other Receiving Antennas*, published in January by the John F. Rider Publishing Company of New York. After teaching one year at the Institute, Arnold joined the technical staff of the Bell Telephone Laboratories in New York where he made numerous valuable contributions to the antenna facilities and communication department. He was active for 21 years with the Bell Telephone Company, leaving the firm in 1947 to establish his own consulting engineering practice. During the period from 1945-1947, he acted as a consulting engineer to the bureau of ships of the United States Navy on antenna design co-ordination. His contributions in the field of radio and television are numerous and he is credited with the invention of the balun (coaxial line balancer), the coaxial antenna, the deltadyne frequency modulator for radio transmitters and a coinvention of the omnidirectional aircraft beacon, now used by the Civil Aeronautics Authority. At present he is employed as a designer and consultant on radiosonde equipment being manufactured for the United States Weather Bureau.

Henry F. McKenna recently spoke to the Greater Springfield (Mass.) Industrial Safety Roundtable on the subject of "Personal Protection Against Atomic Attack." Henry is New England engineering department manager for the Employer's Group Insurance Companies and has gained considerable knowledge of his subject from associations with the Brookhaven National Laboratory.

Marion W. Boyer, X, general manager of the Atomic Energy Commission, in his first interview since taking over the top management of the atomic program, said recently that the men who make America's A-bombs are "fully mobilized and working with a sense of urgency." Former vice-president of the Esso Standard Oil Company, Boyer stepped into the post on November first. He said he is completely satisfied with his working relationship with the commission. After more than 20 years' experience with corporate boards of directors, he explained, "I'm quite in the habit of having people look over my shoulder." Boyer was responsible for all manufacturing operations in Esso Standard, and also served as contact director for supply, transportation and chemical products. During his two months of "getting acquainted" with his new job, he has found a "great similarity" in many problems of the oil industry and the atomic program. He feels that it is the job of the commission to fix policies, and his job to keep production rolling at the greatest possible speed. In that connection, he has passed

the word to the AEC staff that his door is always open when top-level decisions are needed quickly to break a production bottleneck.

Elliott E. McDowell, XV, resigned as of January 31 from his post as corrections commissioner of Massachusetts, a post to which he was appointed by former Governor Robert Bradford in 1948. He has been a member of the Correction Department for 17 years, having been superintendent of prison industries at the Norfolk Prison Colony. Ill health causes his retirement at this time. — Fred W. Greer, II, and Mrs. Greer have been on a trip through the south. A card indicated one stop having been in New Orleans while the March 2 issue of *Confectionery-Ice Cream World* stated they were expected in Havana for a short stay, a combined business and pleasure trip.

Clarence Thulin, XIV, dropped into the office a few days ago. He is extremely busy with Bigelow, Kent, Willard and Company, management engineers in Boston, and has to be out of town much of the time, just now tackling a design and construction job in the New York area. It is a real pleasure to announce the marriage of Sam Caldwell, VI-A, to Mrs. Elizabeth Ward on March 8. — F. LEROY FOSTER, *General Secretary*, Room 5-105, M.I.T., Cambridge 39, Mass.

• 1926 •

Here we are writing the May notes on the Sunday morning before Easter when all good '26 men should, I suppose, be in church. You have perhaps noticed that these notes are always written on a Sunday morning. This would seem to indicate that your Secretary is forced to give up church one Sunday a month in order to get the class notes in on time. This particular Sunday morning has been very squally here at Pigeon Cove with snow flurries blowing around in wild fashion. With such a backdrop I will try to tell you a little more about our reunion but, frankly, on such a morning it's a little difficult to think about outdoor sports, swimming, and so on. As a matter of fact, I think I'll leave the job to Jack Larkin anyhow. Jack, as you know by now, is handling the publicity for our reunion and he will send you complete information about activities planned for June 9 and 10 — you will, no doubt, have it by the time these notes reach the press. Bill Meehan and Joe Levis have apparently become the permanent sports committee for '26 reunions — at least they have been handling the job for as long as I can remember. That's what happens to a couple of boys who do an outstanding job and we of the Class are certainly grateful that they accept this assignment so willingly reunion after reunion.

I don't believe it is necessary to give you a big build-up about activities and facilities anyhow. Essentially, a reunion is an opportunity to get together and meet old friends and not to be entertained. This calls for comfortable surroundings, good food and activities of a nature that will allow friends to get together. Your committee, under the able leadership of Al Dolben, has taken care of all details to produce just this kind of a setting. At the

Hotel Griswold we will have all of the facilities for "reuning" and relaxing comfortably. It is easily accessible and especially well located for those who will be continuing to Cambridge for Alumni Day. If Ralph Head and George Edmonds want to cook up a foursome, the course is right there. If Ray Mancha can find a dozen or two classmates of like desires, he will, without a doubt, organize a Sunday morning swimming party. The baseball games at '26 reunions are always the crowning sports activity and anyone who listens to the jeering would never guess that these men could be friends. However, the major activity of all seems to be just sittin'. Little groups form and reform all during the reunion and the boys have a wonderful opportunity to reminisce and talk things over.

This being the last set of class notes that will be published before reunion, I cannot give you an up-to-the-minute story about who will attend, but Jack will send you such a list by mail. However, even at this early date, the returns are rolling in and Reunion Secretary Pink Salmon sent me the first 81 questionnaires that came back so that I could report the trend. Of these 81, there were but 12 who indicated that they could not come. Typical of those who could not come is Bill Davidson of Pittsburgh who sends his regrets: "I certainly wish I could attend the reunion but I have a daughter graduating from college and a son from high school; both on June 11." We regret that the dates conflict, too, Bill, but sure will be thinking of you. The first returns have caused me to raise my estimate for attendance, especially since so few of these early returns are from men who always attend reunions and who have stated verbally that they plan to attend. I had estimated that 125 would attend because this is our 25th and normal reunion attendance for the Class has been approximately 100. I am now raising my guess to 150 and I would not be surprised if 200 should turn out. After all, the 25th reunion of the only class ever to have a president of the Institute among its members is bound to be quite an affair — let alone having two classmates on the Corporation. Not included in the 81 just mentioned is Dick Plummer. Dick was a guest at our February Alumni Council meeting and I saw him for a few moments and got his word that he would be back in June. It's quite a hike from Mexico City, where Dick is now living, so that shows how important he considers this reunion.

Do any of you have movies or color slides taken at previous reunions? If so, please bring them along; but drop a note beforehand and tell us what size they are, so we can arrange to have projection equipment on hand. Once again I am going to ask the old question, "Does anyone know where the movies are that were taken at Pemberton in June, 1926?" These movies just disappeared but I'll never give up hope of finding them; they would be priceless to have for this reunion.

I can't think of anything more to tell you. You will undoubtedly bring an old sport shirt and a pair of slacks for this is the official outfit for relaxing at a '26 reunion. Don't forget the bathing suit, either. It's going to be wonderful to see all

of you at this — the greatest of all reunions — so until June 9 (I'll be there the night before), Cheerio!

IMPORTANT POSTSCRIPT — THE LOST IS FOUND! It took 200 years to uncover Boswell's *London Journal* but the Class of '26 has found its lost movie after but 25 years. Boswell's descendants realized that they were keeping a skeleton in the closet and we're not sure that our movie is not in the same category. All we have seen is the title on the first few feet which reads as follows: "International News Service Film — NO MAMMA'S BOYS HERE — BOSTON TECH HAS ITS ROUGHEST RUSH — TEAR GAS USED — CAMBRIDGE, MASS. JUNE 1926." Frankly, it is hard to resist the temptation of having it run off, but it is on 35 mm. film and must be reprinted on 16 mm. for our use, so I'm entrusting it to Eastman's care without further peeking. Where was it you ask — well, Bill Lowell is blushing. Bill's son, as you may know, is graduating from the Institute this June and he needed a box in which to pack his books, and so on. He found a suitable box in their Newburyport attic — it was the box Bill had used 25 years ago for packing his books, and so forth, when he graduated, and Dad was asked to empty it to make way for the new generation. The long-lost film was in the box! I wish that I could tell you what is on that film — I would like to know myself, or would I? — **GEORGE WARREN SMITH, General Secretary**, E. I. du Pont de Nemours and Company, Inc., Room 1420, 140 Federal Street, Boston, Mass.

• 1933 •

At long last your Secretary has put down in writing the various bits of information that have arrived during the past year — some older, but we hope they will be interesting. Fred F. Aldridge, public health engineer of King County Health Department at Seattle, Wash., has been appointed to serve on a three-member health commission by the United States Department of Health Service — to go to Iran to teach health sanitation and better health conditions at the National University. Don Winkler was nominated for a three-year term on the board of health of Wakefield, Mass. Bill Murphy is senior engineer instructor, ORC, at headquarters, New Jersey military district, Kearny Navy Yard, Kearny, N.J. Joe Dysart advised us he is back in Miami for good with Pan American World Airways. George Maynard is with Cinch Manufacturing Company. Joe Wetherell, busy with Sperry Gyroscope in Lake Success, is now living in Cold Spring Harbor, Long Island. V. L. Parsegian is with the Atomic Energy Commission, New York operations office as director of the Division of Technical Advisers. John R. Wiley was appointed as deputy director of the Port of New York Authority, Department of Airport Development, approximately a year ago. Steve Avakian has been doing some speaking on the subject of "Mathematics Without Tears — Curious and Recreational Aspects of the Queen of Sciences." Captain John H. Spiller was detached from the submarine division of the Navy in Washington last spring and assigned to the Pearl Harbor Naval Shipyard in Hawaii.

The marriage of Harrison L. Jewett to Alice Metcalf Chambers took place in Brooklyn last April. Jewett was associated with Associated Universities at Brookhaven National Laboratory. Tucker M. Vye, administrator of the Addison Gilbert Hospital at Gloucester, Mass., says his ambition is to run a hospital some year on a break-even basis. Helen Farnham Tucker is with Rohm and Haas Company in Philadelphia, as editor of their house organ, *Developments Report in Chemistry*. Nicholas DeVries is a designer with W. F. Whitney Company, Inc., at South Ashburnham, Mass., manufacturers of fine maple furniture. Muriel F. Bliss resigned her position as executive secretary of the Greater Hartford Tuberculosis and Public Health Society on the occasion of her marriage last September to Leonard Wilbur. Morris Green is associate professor of bacteriology at the Medical School of the University of Missouri. Arthur Wolf is with the National Security Resources Board as an expert in the rubber field. A note from Beau Whitton tells us he is still extremely busy building with the Southeastern Construction Company of Charlotte, N.C. Elina Perkins was appointed health education director of the Norfolk County Health Association in Quincy, Mass.

George W. Boys, President of the Southern Combed Yarn Spinners Association, is president of the Green River Mills, Inc., at Tuxedo, N.C. Lieutenant Colonel Carroll T. Newton was named chief of the Plans Division, Office of Assistant Chief of Staff of the Japan Logistical Command with headquarters in Yokohama — the mission assigned is the occupation of Japan, the logistical support of the troops in Korea as well as support of the occupational forces including Air Force and Navy, in Japan. Lieutenant Colonel Vincent C. Frisby has been assigned to the Engineer Section of the Japan Logistical Command. Leslie S. Fletcher is technical director of Sam Tour and Company, Inc., New York City. Extract from the *Hong Kong Telegraph*, South China, August 9, 1950: "In London this month: Mr. Emile Bustani, portly 42 year old Lebanese building magnate and importer. Bustani's trade symbol is a black cat: he founded the Contracting and Trading Company (CAT) in Beirut in 1938. The enterprise has prospered; now Bustani is a millionaire, owns eight aeroplanes. He is an engineer by profession, qualified at . . . Technology. His recipe for success: 'Prompt delivery. I have eliminated bunka (tomorrow) from my trading vocabulary.'" The marriage of Harry Guy Lees to Roberta Ella Aber took place on October 10, 1950. Lees is fire protection engineer associated with the Central Automatic Sprinkler Company. Robert H. Winters is Canadian minister of resources and development and a member of the Canadian Parliament.

Roger F. Vinson, President of the Realty Construction and Engineering, Inc., is working on the construction of real estate development. Colonel Arthur Y. Snell passed away on October 14, 1950, as the result of an automobile accident near Rochester. Prentiss Lobdell married Marjorie Thompson of Philadelphia on Octo-

ber 28, 1950, and they are now living in Yonkers, N.Y. Prentiss is an expert crystal-gazing economist for Standard Oil of New Jersey and Rockefeller Center, New York City. Water Swanton discontinued his teaching at Rochester Institute of Technology and is now a chemical process engineer for the Pfaudler Company in Rochester. Bob Smith is also with Pfaudler. Bill P. DeCamp is vice-president and general manager of Peter Gray Corporation in Cambridge, designers and manufacturers of sheet metal products and stampings. Bill ran into Dominic Chimiello who was recently promoted to full colonel in the Chemical Warfare Service. The marriage of Bill Barbour to Georgiana Whitney took place last December. Bill is doing a tremendous job in atomic research with his Tracerlab, Inc. Roland L. Lee was appointed chief of the textile division of the United States Tariff Commission.

Ellis Littmann sent a very clever announcement and advised us that the first baby of 1951, born two seconds after midnight at the Jewish Hospital, St. Louis, was Susan Littmann. A card from Art Hungerford indicates that he is living outside of Chappaqua, N.Y., and is now with General Precision Laboratory as commercial manager of TV equipment. A note from Ken Moslander says he is still with Carbide and Carbon, now in New York instead of New Jersey. A note was received from Bob Kimball who is back at the Institute in the capacity of director of the Division of Business Administration as general overseer of the Institute's service operations. Bob returned after two glorious years in Los Alamos to serve as Jim Killian's executive assistant for eight months before assuming his new post. A note came in from Bill Klee, now president of Vacuum Melt, Inc., at Greenville Pa. Bill retired from Copperweld in May and after an extended vacation assumed his present capacity on December 1. Vacuum Melt is a manufacturer of stainless steel tubing. Bill invites contacts from any Alumni interested in any way with this field. Lawrence J. Hubbard was recently appointed vice-president of the Duane Jones Company, advertising agency. Leon Reisman is a draftsman with Stone and Webster Corporation.

That's all for now — will try to make these visits a little more frequent in the future. If you have anything for the good and welfare drop a post card to — **GEORGE HENNING, General Secretary**, Belmont Smelting and Refining Works, Inc., 330 Belmont Avenue, Brooklyn 7, N.Y. **ROBERT M. KIMBALL, Assistant Secretary**, Room 3-207, M.I.T., Cambridge 39, Mass.

• 1936 •

Ariel Thomas attended the midwinter alumni meeting at Technology on February 1 and Al reports that the program was excellent, as usual. He saw some of our classmates and was kind enough to pass on the following information. Joseph Burns, of Somerville, Mass., is now a sales engineer for the Independent Pneumatic Tool Company. He plans to attend the reunion subject to the wishes of Uncle Sam — he was a lieutenant commander in World War II. Frank Lessard of Brock-

ton, Mass., is sales engineer for Bethlehem Steel Company in Boston. He also plans to attend the reunion. Elliott Robinson stopped at the '36 table, but all Al can tell us about him is that he looked healthy and prosperous. As for Al, himself, as was reported in a previous issue of *The Review*, he is living in Arlington, Mass., and working in the Water Pollution Control Division of the United States Public Health Service.

C. D. Cairns is vice-president of R. T. Platka Fuels, Inc., Burlington, Vt. He hopes that Cambridge will still be a safe place to spend a couple of days by June 9 and 10. We hope so, too, Doug! Bill Mullen of Glendale, Calif., doesn't expect to make the reunion in June, but he will be with us in spirit, at least. We will be hoping, Bill, that your plans will change by then, and that you will find it possible to join us — it would be good to see you again. El Koontz, who has been a sales engineer for the Reliance Electric and Engineering Company in the New York area since World War II, has been appointed branch manager to head a newly established Newark office, which is located at 1060 Broad Street. Congratulations, El!

The following people have sent their deposits for hotel reservations for the reunion, per Fletch Thornton's recent letter and questionnaire: Jim Ullman from Cleveland, Bernie Schulman from Akron, Stan Johnson, at present in Belgium but back home in time for the reunion, George Trimble from Maryland, Jack Hamilton, the present long-distance record holder from Los Angeles, Alice Hunter Kimball, Roman Ulsans from Pennsylvania, and others from New York, New Jersey, Connecticut and Massachusetts, as follows: Larry Lombardi, Jim Leary, Dick Patterson, Mal Holcombe, Fletch Thornton, Hank Cargen, Gordon Thomas, Dick Halloran, El Koontz, Phil Norton, Larry Kanthers, Web Francis, Dick Kogler, Leo Kramer, Fred Assmann, Dick Denton, Roger Krey, John Graham, and yours truly.

Foremost in our thoughts this month should be the hopes and plans for our 15th reunion. To date we have had a fair response to the "preliminary survey" which was mailed to the members of the Class; but when you consider the size of our Class, we could do much better. If you have not already done so, send your reservation in now. We as a group, maintaining an interest in our alma mater, should do all we can, and go "all out" upon the occasion of this reunion, to renew and resume our old associations, to conjure up memories of days when we had close fraternity with our brother classmates. Let us show some of the "get up and go" that we possessed when we were actively a part of the M.I.T. campus. It is not in the too far distant future that this reunion will be a reality; before we know it, those of us who have already signified our intention of attending will be meeting on familiar ground with old friends. I am sure that no one wants to miss this opportunity, so let us move along, step up our registrations, and begin to anticipate the fun we will have in our June get-together.

Major Lee P. Tolman of Kew Hall, Kew Gardens, N.Y., has been reported as assistant chief, Facilities and Installations Branch, Special Projects Division, Third Army G-4 Section in Atlanta, Ga. It is to be noted that during World War II, Major Tolman served as a camouflage specialist at various posts throughout the United States, following which he has been employed as a standards engineer with the American Society of Mechanical Engineers in New York City. Such strides on the part of our classmates are a fine tribute to the formative training at M.I.T. — Congratulations Major Richard F. Morton, on your appointment to the faculty of the 1030th Organized Reserve Corps School at Boston Army Base. It seems your instructorship in physics at Worcester Polytechnic Institute has laid fine groundwork for your present assignment. Good luck on your new undertaking.

In Boston recently, the story of another member of our Class appeared in the local newspaper. Dan Rhee, a native Korean, came to this country 28 years ago, when he was spirited out of the country under a Japanese name and a faked passport, because of existing political factions and difficulties at that time. He became a student here, and graduated from our own M.I.T., later to become an outstanding and brilliant chemical engineer, specializing in rubber. He founded, and now heads, the Rhee Elastic Thread Company of Warren, R.I., and in all these years he has never been able to go home to see the loved ones that had been left behind. His mother, now 76 years old, has recently been brought to this country to spend her remaining days with Dan — thanks to the efforts and goodwill of a fellow Korean that he had met in this country. Congratulations on your good fortune Dan, and the best wishes from all your classmates to your wonderful mother.

New England states seem to do our M.I.T. boys proud, or perhaps it is vice versa. Robert B. Woodward has been promoted to the post of professor of chemistry at Harvard University. You will recall that Bob was the discoverer of synthetic quinine, and during the war he was consultant of the Committee on Medical Research of the Office of Scientific Research and Development, working especially on the penicillin project. — Apologies, Ollie, for the mistake made in the February notes, and congratulations on your post as chief engineer for the Stromberg-Carlson Sound Equipment division. Somehow, your reporter was mistaken in his information that Ollie Angevine was still immersed in telephone work.

Apparently, the foundation that we have been trying to lay for the class reunion has hit some of our classmates in the desired "soft spot." Leo Kramer has had his memories stirred to a point where he anticipates the reunion and is anxious to see it succeed. In a letter from him recently he also lets us know that he is department manager of the Engineering Services department of the Raytheon Manufacturing Company of Waltham. Not only is he a member of this organization, but he states that "we have quite a representation of M.I.T. men here, but the

only '36 man is Harry Pekin, who holds down an important job in the Power Tube division." — In a recent notification of a change of address, it comes to light that Walther H. Mathesius is now with the Chicago Retort and Fire Brick division of the Laclede-Christy Company in Ottawa, Ill., as general manager. He and Jack Austin manage to occasionally get together and they are, at the moment, the Midwest representation in these notes — for upon reading them over, New England is favored with news-value this month.

Don't forget fellows, it is only through you and your contact with fellow Alumni that your Secretary can, with your help, bring the news to the other members of the Class. Keep your eye on the June reunion — and join forces to make it the best reunion in the history of M.I.T. — ROBERT E. WORDEN, *General Secretary*, Fidelity-Philadelphia Trust Building, Philadelphia 9, Pa.

• 1938 •

At long last it appears that Don Severance has come up with the right idea for getting information from our class members for the class notes. Our men have been going places and doing things, but they seem extremely reluctant to let the Alumni Office know anything about it. Now Don has sent out groups of double post cards asking for a few notes about each person, and the return has been quite good. We list below the first of a series.

Bert Crossfingler writes from New York: "I think your double post card idea is a good one. I returned from Europe just before Christmas, having spent three weeks in Italy and France — neither of which lived up to any sunny reputations — rain every day." Mike Cetti writes from Pennsgrove, N.J.: "Nothing much to report from this end about other '38 men, as I haven't run across any since getting out of the service in 1946. As for myself, I am married, have a lovely wife and two children. For the past four years I have been in the hosiery business and am now president of Kleer-Vue Hosiery Mills, Inc., in Pennsgrove, N.J. If I ever get back to Cambridge, I'll stop in." From Toronto, Ontario, Don Barnaby writes: "For the last three years have been assistant to the president at Canadian Line Materials. Have been active in industry associations, as well as the American Institute of Electrical Engineers and Illuminating Engineering Society in Toronto. Wife and I still do not have any children, just two goldfish. Ralph G. Adams, Jr., has spent the last 10 or 11 years at Bendix Aviation in Hackensack, N.J. He has been senior research engineer for the last few years. I saw him and his wife last November in New York. No news of any others in our Class. There are quite a few M.I.T. boys in this area and have attended a couple of meetings of the M.I.T. Club of Lower Ontario."

Bruce Leslie writes from Edgewood, R.I.: "We have recently moved into our new house at the above address. (18 Cold Brook Road, Edgewood 5, R.I.) Ranch type, having become used to the type after three years in Los Angeles. We now

have three boys, aged eight, six, and two. I'm still with Firemen's Mutual Insurance Company of Providence warming a home office seat after opening a successful office in Pasadena, Calif., and spending some years in New York City. See Art Rowley occasionally; he is building near us. Also heard from Gordon Hunt, Howie Banzett, Karl Fransson, and Dave Beaman, at least every Christmas. Thys Boissevain writes from New York: "Still teaching at Pratt Institute and doing research work in fuel additives on the side. Expecting a fourth addition to our family in March. Like many Brooklynites I don't get to Manhattan much except on business and so I don't ever see any of my classmates." Lloyd Bergeson from Prides Crossing, Mass.: "As a former assistant class secretary, my sympathies! My wife Carol, daughter Kathy (now 16 months), and I returned East last May after two years in the desert of eastern Washington where I was assistant to the manager of the Atomic Energy Commission, Hamford works. Never a dull moment and plenty of terrific skiing and mountain climbing in the Cascades, the Blue Mountains, and the Wallawallas in between the work. We're now happily anchored in Prides Crossing while I work in the aircraft gas turbine division of General Electric. We get a particular kick out of finding the Boston symphony even better than we remembered it in 1940, the year we left Boston, a heartening symbol that all is not decadence in this world of ours."

Russ Coile from the Navy: "I am out at CINCPACFLT HQ (Commander in Chief Pacific Fleet Headquarters) at Pearl Harbor, temporarily. I have just returned from a couple of months in Japan. John Everett '37 and John Pellam '40 are also here. Last summer, after returning to Washington from M.I.T., we bought a house in Bethesda where we have now put down roots (except for the minor interruption of going out to Japan). I am having a junior reunion tonight with some of my Hawaiian high school classmates whom I haven't seen since I graduated from high school here in Honolulu in 1933." Earle Lovering from Seymour, Conn.: "No real news. I now have three children and am chief metallurgist of Seymour Manufacturing Company. Occasionally see Rolland French, who is with Bridgeport Brass. On my business trips I occasionally meet M.I.T. men but so far none from '38." Bob Johnson from Boston: "A card from Sam Steere from Japan shows his wife, Edie, and Sam clad in flowing Oriental robes, fans, and so on, looking as though life there was not hard to take. Sam is a major in the Air Force. You probably have news of Lloyd Bergeson, but in case you don't, he is a country gentleman at Prides Crossing, Mass., working with General Electric at Lynn since June of 1950." Howard Lawrence from Canton, N.J.: "I was glad to hear from you again. Perhaps now that another war is coming, you will have another radiation lab and I will get up that way. I am still at R.C.A., presently in the aviation equipment engineering department in charge of air-borne radar and long-range navigation end of the business. My wife and I live on a little four-acre farm with

our two fine boys. The boys are three and eight and are getting to be a big help in running the tractor, picking the fruit, and tending the chickens. I have not seen much of our Class since graduating but see M.I.T. grads of other classes all over the country! Never realized we had so many." Jan Jansen writes from Brookside, N.J.: "Mamie Wilson (a Minnesota girl) and I were married in 1944 and we now have two daughters, aged six and two. We live in Brookside, a few miles west of Morristown, N.J. I have been on the technical staff of the Bell Telephone Laboratories since leaving the Institute in 1939 and, except for the period of World War II, I have been engaged in television transmission work for the entire period. My work is now located at the new laboratories in Murray Hill, N.J."

We have a little history on Carl Shulman from the Chelsea, Mass., *Record* which is of interest to the Class. "Carl Isaac Shulman, although only 34 years old, is credited with numerous accomplishments in the field of electronics. A former student at . . . Technology, where he received the degrees of bachelor of science and master of science in 1938 and 1939 respectively, his activities, during the short span of his career, have been confined to only two organizations. Thus, at his first position, he was employed by the Submarine Signal Company from 1939 to 1940. Secondly, he since has been a member of the research staff of the Radio Corporation of America Laboratories at Princeton, N.J., where he is one of the many outstanding scientists who have been responsible for the development of electronic and other equipment for both military and civilian purposes. Particular mention should be made of the fact that Mr. Shulman has received recognition for his original studies and investigations on ultra high frequency radio tubes. Moreover, as may be expected, he is active in the leading professional societies of his field, such as the American Physical Society and the Institute of Radio Engineers, and is a contributor of numerous articles to their journals. Included among his writings are 'A Frequency-Modulated Magnetron for Super-High Frequencies' and 'Small-signal Analysis of Traveling Wave Tube,' published respectively in July and December, 1947. Mr. Shulman makes his home in Princeton, New Jersey."

Roy Hopgood reports a family of three children: Carolyn, eight, Barbara, six, and Richard, two and one-half. Don Mitchell writes: "I am still in the process of getting settled in the new house we moved into last summer. My job continues with the Walter Baker Chocolate Company and last month I had a monograph on the chocolate industry published by the Bellman Publishing Company." From Ralph Lebow we hear: "Last month I left my position as chief of the fuel systems unit, Power Plant Laboratory, Wright Field, and went back into private industry. I am with the Parker Appliance Company as staff engineer, aircraft fuel systems, in charge of fuel valve development. We moved to the following address: 19101 South Moreland Boulevard, Shaker Heights 22, Ohio - a comfortable little

apartment until we can get a chance to look for a house. Still only one child, Roger, aged 21 months, who keeps us plenty busy." Jay AuWerter writes: "News of me isn't anything momentous outside of the job my wife (primarily), and I (secondary) have in taking care of our two daughters, Nancy (seven years) and Midge (four and one-half years), and our son, Chip (two years). When I got out of the Air Force early in 1946, I started a screw machine plant in Cleveland called the Atlantic Automatic Company. We have been going along in a steady expansion and in July, 1948, I purchased another company, the C. E. Squires Company which has made steam equipment since 1895. I moved the two companies together and operate them separately, although in the factory you can't tell one from the other without a program. We are very busy on defense work and running full blast. At present I am scratching my memory of thermodynamics to guide my designing of new steam specialties. By the way, look for my article on steam traps in February, 1951, *Power Engineering*."

In the news we find that Bruce Old has been elected vice-president of Arthur D. Little, Inc., and Saul Jacobson has been made vice-president in charge of manufacturing of the Brunswick-Balke-Collender Company of Chicago. The Boston Sunday Post recently featured an article about Francis Hagerty's shop for building boats and knockdown furniture. —ALBERT O. WILSON, JR., *General Secretary*, 24 Bennington Road, Lexington 73, Mass. DAVID E. ACKER, *Assistant Secretary*, 210 Woburn Street, Lexington 73, Mass.

• 1940 •

Bob Snyder writes from Augusta, Maine, enclosing a check of five dollars for his class dues. This covers his dues through 1960. Now that Bob has started the ball rolling, how about the rest of you fellows keeping it going - 50 cents a year or five dollars for five years.

Kenny Lish who is in Colonia, Uruguay, writes: "It has been a long time since I've written and a good deal has happened. I missed the 10th reunion last June because I left the States about eight weeks before that. Anyway, I can report that I was married in September of 1949 to Norma Katz, Hunter, 1950. After I left the Army in 1946, I went with United Merchants and Manufacturers as a mechanical engineer in the engineering department. The first job I tackled there was the design of a small commercial steam power plant - 1,000 kva. There were to be two built from the same plans, one in Uruguay, the other in Venezuela. I spent most of 1948 in Venezuela installing the power plant and two large textile mill air-conditioning systems. In that year I really learned the meaning of the words: 'There is more than one way to skin a cat.' There is really nothing quite like building a plant like a power house out in the middle of nowhere when all you have is a welding set, a lathe, and a milling machine. Some of the things you do are far from the best engineering practice, but they get the job done and the plant running."

"In 1949, I began the design and purchasing of a rayon plant in Colonia, Uruguay, of which I am now superintendent. This, too, has been an experience. Out here we do with manpower what we do with machines at home. I watched a 180,000-cubic-foot reinforced concrete building built with one yard-and-a-half concrete mixer and men. Where at home we would use a scraper or bulldozer, they use 15 men with picks and shovels. The work takes longer, but gets done. Our biggest problem here is procurement. And from experience I can now order a plant right down to the last bolt and washer for exporting. According to my schedule I may be able to make the reunion in 1952 if it is not too early in June. Anyhow, I want to be on the mailing list for 1952.

"Enclosed is a check with this letter for my dues. Send The Review down here to me at the address given. I won't get it for six weeks, but it will finally arrive and be appreciated. If there are notices that require any rapid answer, I would definitely recommend air mail, as it is a three-week boat trip." Tizzie, your letter was appreciated and perhaps will inspire a few other classmates to drop me a line of their doings or misdoings.

Have two engagements to report: Lila Swift to Donald F. Monell on February 12; and Patricia T. Fehr to John H. McGuigan on January 22. — Tom Gibb gave a talk before the Beverly, Mass., Kiwanis Club concerning the chemist and his value to everyday life. Milt Green writes that he is getting his Ph.D. degree from Columbia in June and then will join the Polaroid Corporation in Cambridge. Milt states that he will be glad to get back into New England again.

Bob Bittenbender, chairman of the 10th reunion committee, has written to me enclosing a check for the \$300 borrowed from the class treasury by the committee for operating funds and also included in the check was an extra \$250 as profits on the reunion which can be used for our 15th reunion. Bob and the rest of the 10th reunion committee deserve a vote of thanks from the class for the hard work they put in to make the reunion a success. Bob also writes that he sees some of the fellows working around Boston such as Hap Farrell, Dick Berry, Wally Schuchard, Dick MacPhaul, John Danforth, Bernie Stiff, Abe Rockwood, Doug Eckhardt and Earle Benson. He states that Russ Haden was transferred to Lockport, N.Y., by Dewey and Almy around the first of the year and that Doug and Earle are with him at the electronics division of Sylvania Electric. They are in the tube end of things while Bob is in equipment development, which is a far cry from the civil engineer Bob started out to be. Bob is married and has two youngsters, a boy and a girl. — ALVIN GUTTAG, *General Secretary*, 7114 Marion Lane, Bethesda 14, Md. MARSHALL D. MCCUEN, *Assistant Secretary*, Oldsmobile Division, General Motors Corporation, Lansing 21, Mich.

• 1941 •

The 10th reunion is coming closer, the week end of June 9 and 10, to be exact, and the place is the Curtis Hotel, Lenox,

Mass. Lenox is in the heart of the Berkshires, 140 miles north of New York and 140 miles west of Boston. It is just a mile and one half from Tanglewood, the permanent home of the Berkshire Symphony Festival and the Berkshire Music Center. An interesting and relaxing week end is promised by your committee chairman, Reid Weedon. You have no doubt heard from Reid directly, but if for some reason your mailing has strayed, write to him at 4 Overlook Way, Winchester, Mass. The return to Reid's first mailing was beyond our most optimistic estimate and the prospect of a well attended gathering is virtually assured. Your own enjoyment will depend on the presence at reunion of the fellows you knew best at Cambridge so why not contact a few of them and make sure that they have made plans to attend? Plan to arrive at least by noon on Saturday, the 9th — luncheon will be the first organized activity. Luncheon on Sunday will be the last organized activity. What goes on during the ensuing period will depend on the energy and industry of your committee under Reid's direction. But be assured of an afternoon of sports and a banquet. By the time you read this column, details on the program will have been released — we are sure that you will look forward to participating. Members of the committee include Ed Marden, Hank Avery, John Sexton, Ray Harper, Ivor Collins, Dave Howard, Rog Finch and your Secretary.

Back to the current news, Nathan Owen has recently been admitted to general partnership in J. H. Whitney and Company, New York City, a leading venture capital firm that invests its funds in new businesses formed for the commercial development of novel and worthwhile products or processes. Dave McNally has been appointed manager of Packard's newly consolidated service parts warehouse and central inventory control program. Bob Mayer has been selected for honorable mention as one of the nation's outstanding young electrical engineers of 1950 by Eta Kappa Nu, national electrical engineering fraternity. Bob was awarded a certificate in New York at the fraternity's annual recognition dinner, held in connection with the winter convention of the American Institute of Electrical Engineers. Having obtained his S.B.E.E. and S.M.E.E. degrees in 1942 at the Institute, Bob joined the Aero and Ordnance Systems engineering divisions of General Electric at Schenectady. Bob was subsequently assigned to the Institute's Radiation Laboratory where he was associated with the development and design of the SCR-584 automatic radar tracking system. After returning to Schenectady to help develop servo systems for the control of an antiaircraft gun director, Bob was reassigned to the Radiation Laboratory to work on naval gun fire control systems. Bob has continued in this specialty since the war. He lives in Schenectady.

From Hank Avery: "Saw the item about Dave McNally when last in Detroit and called Dave for confirmation. Dave has settled in Detroit with his family. See a number of our classmates quite regularly at the Army 1050th Research and Development Group meetings which

are held at the Institute. Rog Finch was quite instrumental in the formation of this group. Among '41 men present: Mert Richardson, Bill McKenney, Hank Avery and Stan Backer, former member. Herb Moody was at the American Institute of Chemical Engineers' meeting in Columbus and had photographs of his offspring readily available for all interested spectators. Two of the new ultramodern apartments at 100 Memorial Drive are being occupied by class members: Sam McCauley who is at M.I.T. on a Sloan Fellowship, and Charlie Sauer of Arthur D. Little, Inc. Ken Seltzer is in the Boston laboratories of Godfrey L. Cabot, Inc. Bud Ackerson is a chemical engineer with the Dewey Products Company of Cambridge. Colonel Jac Rothschild, who received his S.M. degree in 1942 but who is well known to many '41 men, has been made commanding officer of the Technical Command at the Chemical Center in Maryland. Ray Foster is back in Boston from his extended trip to California for the Stone and Webster Engineering Corporation."

Ivor and Mrs. Collins announce the arrival of a son. Ann Lavery is engaged to Jim Tyson. Eileen Kussmal recently became Mrs. John Duncan. Irv Koss has been promoted to the rank of major — and when last met, in Harvard Square, was attending Harvard Business School. Eleanor Keating is engaged to Dick Joyce. Congratulations to all. And to Hank and Mrs. Avery, congratulations on the arrival of Deborah Lea Avery on January 1. — STANLEY BACKER, *General Secretary*, 335A Harvard Street, Cambridge 39, Mass. JOHAN M. ANDERSEN, *Assistant Secretary*, Saddle Hill Farm, Hopkinton, Mass.

• 1944 (10-44) •

Introducing the May guest editor, Ken Scheid: "If the function of a guest editor is to provide anything comprehensive in the way of a report on class members, then I will be something of a dud. Perhaps this is because for the past four years I have been somewhat off the well-traveled track, first in Minneapolis, with General Mills, and now at Technology, in the Economics Department. At present I am doing some teaching and considering the pros and cons of continuing here for my Ph.D. in Industrial Relations and Economics. But there are a few persons who visit this way once in a while and a few who I have seen or heard from in the not-too-distant past. Our roaming Class President, Johnny Hull, reported recently that he is rather firmly established in Albury, N.S.W., Australia, with Betty and the two children. The interesting additional fact is that John is working in an aircraft factory as an aeronautical engineer! Quite a change, in a way, from UNRRA in China and the IRO in Germany.

"George Quisenberry and I voyaged westward last summer to pay a call on Cort and Dorie Ames in San Francisco. Cort, at last reports, was handling a nearby sales territory for the Schlage Lock Company and is another strong convert to the West Coast way of life. Quiz is another one of those Course XIII men who saw the light, did some work in XV, and

has now established himself as a star salesman for the Package Machinery Corporation in New York City. Quiz and I, by the way, remain in the unattached ranks. A few people from our Class are here at the Institute. Bud Bryant is on the administrative staff in the Admissions Office. Johnny Woolston is completing advanced work in Course XIII for the Navy here and reports that his next stop following his graduation in June will be the Naval Shipyard in San Francisco. Gil Krulee received his Ph.D. in Psychology from the Institute last June and has been working this year with a field research group at the University of Michigan. Gil was still single when I last saw him.

"From time to time I have heard from or seen a few former members of the Class who were abruptly separated from the Institute in 1943 when the Army ERC and Air Force called the boys up. Stan and Jean Smock are living in Dallas where Stan is working with Procter and Gamble. Jim Phillips'47, whom I see from time to time around M.I.T., is with one of the Boston insurance companies; he and Jane are living in Manchester on the North Shore. Lev Pope is doing very well, thank you, with the business department of the New York *Daily News*; he and his wife are Westchester residents. Ryder Amthor'48 is one of the General Electric men with the home appliance division in Bridgeport. At last reports he was doing field market testing for them."

First Lieutenant William H. Bamber was recently promoted to captain in the 188th Airborne Infantry Regiment, 11th Airborne Division. Robert B. Windsor, formally assistant professor of physics at Johns Hopkins University, has joined the phosphor research staff of the Westinghouse lamp division.

Ellen Ann Leavy of Plainfield, N.J., and Abbe Institute, N.Y., is engaged to Norman Kasmanoff. Norman received his M.A. degree at Rutgers and then joined the research engineers at the Squier Signal Corps Engineering Laboratory, Fort Monmouth. Emily Dorcas of Plymouth, Mass., and Brown University is engaged to Brooks Spaulding White who attended both M.I.T. and Harvard University and is now a senior at the Boston University School of Medicine. Margaret Sanders Clark of Cleveland and Wellesley College is engaged to Joseph Thomas Lester, Jr., who has already received his M.S. degree in Mechanical Engineering at M.I.T. and is doing scientific research there. Helen Elizabeth Fitzpatrick of the Academy of the Assumption is engaged to Captain James T. Taylor of the U.S. Engineers. Until recently, he was in the export business in the Orient and also with the Pittsburgh Plate Glass Company of Boston.

Au Revoir, I am off to Europe.—JAMES S. MULHOLLAND, JR., *General Secretary*, Reinhold Publishing Corporation, 330 West 42d Street, New York, N.Y. *Assistant Secretaries*: JAMES B. ANGELL, 35 Webster Street, West Newton 65, Mass. RODERICK L. HARRIS, 155 Spring Lane, Levittown, N.Y.

• 1945 •

Since Clint Springer has asked me this month to note down what little information I have regarding various classmates,

it finally gives me a chance to say something about our esteemed general secretary in addition to what Chick Street told you in a recent issue of *The Review*. Chick failed to mention Clint's pleasant surroundings in Providence, R.I. Since it is my fortune to travel down that way weekly, I can report that he has a very pleasant location. There are 80 girls surrounding him in the office, and since 90 per cent of them are beautiful, that leaves eight to date Springer. All kidding aside, I think you will agree Clint has done a fine job since taking over last June.

At the midwinter alumni meeting at M.I.T. in February, I met the following: Bill Meade, Tom McNamara, Bill Martin, Bob Maglathlin, Jim Hourihan'48, and Dick Snow'48, both of Marblehead. After starting on the board at Stone and Webster in 1946, Bill Meade has advanced to a project engineer's job and devotes his time to power plants. Despite all the beautiful women around Boston (remember?), Bill is still a bachelor, but we're working on him. Bob Maglathlin and Bill Martin (Chief Martin, that is) are both electronics engineers at the Laboratory for Electronics in Boston. Both are married but Bill is one up on Bob in the person of Bill, Jr., who is now about 17 months old and quite a boy. Since leaving Technology, Bill has worked at Hytron and National Television as well as putting in some time as an assistant professor teaching electronics at Pratt Institute. Bob was previously with Melpar Electronics down in Virginia. He is now planning the construction of a new home in Norwell, Mass. Tom McNamara was married in April, 1950, lives in Dorchester and is working at Raytheon as a technical writer on electronics and radar equipment. Ray Pelley is with Procter and Gamble doing industrial engineering work in Cincinnati. Ray joined that company in 1946 and is very well satisfied with his work. He recommends very highly the P and G training course for industrial engineers. Ray and his lovely wife, Jeanne, spend their summer vacation each year in Boston and on the Cape, and so we get to see them briefly. Keeping the Pelleys company in Cincinnati is none other than Matthew B. Harrington who is with Shell Oil. Red is married and boasts a baby daughter. If he'd write to us once in awhile, we could give you more information on him. How about that, Matthew?

Westinghouse still claims three of us: Andy Marocchi, who is an appliance engineer in Mansfield, Ohio; Waite Stephenson, who is in elevator sales in New York; and the writer, who is in air handling sales in Boston. Both Andy and Steve are quite active in the Naval Reserve program, but they are still free men as far as I know. Max Ruehrmund comes to town occasionally on business. Max is selling coconuts (believe me) for General Foods Corporation, working out of Hoboken. In the past two years, he has traveled quite extensively through the country covering the entire coconut market and, if questioned, he can quote precise figures on coconut consumption within the United States for the last five years. Max was Course X, you know. Actually, Max's work also involves product

development and, as well as the actual sale of coconut, he is also charged with the design of coconut processing machines. Thomas Hickey is well established in Boston as a leather salesman. Pete is married, has one beautiful little daughter. He is living in Hancock Village which is on Route 1 in West Roxbury, in case any of you want to look him up when you're in town.

The following information is taken from the questionnaires we sent out last year, and though it might be a little stale by now, it will still tell you where some of the boys have been in the last five years. Dave Trageres was residing in Lackawanna, N.Y., and working as director of the Buffalo Station in M.I.T.'s Chemical Engineering Department. Dave received his master's degree in 1948 and was married in 1949 to Mary Stewart.

Harland W. Huston, working for Du Pont down in Wilmington, Del., was married in 1946 to Helen Hogue of Boston and has one daughter, aged three and one-half. He received an M.B.A. at Harvard in 1949. Bob Turner of Course VI is working at Sperry Gyroscope Company in Great Neck, N.Y., and is still a bachelor. Roger Hood, living in South Acton, Mass., married in 1945, has two children, and is working for the United American Soda Fountain Corporation in Watertown. Paoli Massaglia was married in 1949 to Doris Worford and is working in Kansas City. Frank Carroll, who was a Course XVI man, has been recalled to active duty in the Navy as a lieutenant, junior grade. While Frank was working at Dennison Manufacturing Company in Framingham, he joined the active reserve at Squantum Naval Air Base as an engineering officer. His unit was called back this summer. We would like to hear from Frank and get the news on present Navy life. Warren Miller, another bachelor, is living in Buffalo, N.Y., and working as an engineer at the Battenfeld Grease and Oil Corporation in North Tonawanda, N.Y. Eddie Washburn is with Stone and Webster as an engineer, was married in June, 1948, and is living in South Braintree, Mass.

So much for the meager news I have this month. As you can see, our news is getting rather old and we urgently request that you drop us a line and bring us up to date. We have not learned as yet of the actual date for the alumni banquet this year. We think however that it will once more be held on a Monday night. Last year our Class held a cocktail party in one of the hotel suites before the banquet. As those who attended would testify, the cocktail party was a huge success and we intend to hold it again this year. We would like all of you who possibly can to show up for the banquet this year. We can count on the regulars who live in this area and attend each year, but we would really like to see some of you who haven't been since we got out of school. I can assure you that you will have a good time.

Before I close, I do have a couple of items Springer has just sent me. L. Ulf Nilsson is on his way to India as a representative of the Goodyear Rubber and Tire Company of Akron, Ohio, where he has been employed for the past five years.

He will be living outside Calcutta in an English settlement with his wife. The other item is announcement of the engagement of Alma Gloria Hendrickson to Stanley Donaldson who is with Field Television in Islip, Long Island. — WILLIAM J. MCKAY, *Assistant Secretary*, 15 Barrett Street, Needham, Mass.

• 1946 (2-46) •

From the quantity and persistence of the engagement and wedding announcements over the years, it would hardly seem possible that there are unattached classmates. This bodes ill for future notes; but, for the present, announcements continue to turn up. Art Schiff and Gladys Silver of Manchester, N.H., were engaged in February. Art's now working with the Industrial Rayon Corporation in New York City, so I gather that he met his fiancée when he was working in Manchester. Warren Turner and Lucille Miller of Glen Ridge, N.J., are being married in September. Warren (whose address is 249 Forest Avenue, Glen Ridge, N.J.) is the reunion committee member-at-large in the northern New Jersey area. Those of you who live in this garden spot should contact him about car pools and latest reunion plans.

In January, Lieutenant (j.g.) Noël Coe, United States Naval Reserve, and Janet Hobby of New Rochelle, N.Y., were married. The military prefix is a surprise; maybe Noel can give us the details. Andy Burns was married to Betty Truesdale, Danbury, Conn., on January 27. The couple are presently living in White Plains, N.Y., where Andy is working at the Norden Laboratories. Kenneth Foster and Carol Sevin of Norwich, Conn., were married at a candlelight ceremony on January 18. We take special note in announcing the marriage on April 7 of Class President Herb Hansell to Jeanne Harris in Chicago. Your Secretary wonders how Herb, with his big blue eyes and long lashes, had maintained his bachelor status!

C. S. Lyon, who, with Bill Siebert, has been doing a bang-up job on reunion publicity, is in "real life" a systems engineer on the staff of the Division of Industrial Cooperation at the Institute. He is working with a large electromechanical analogue computer doing flight simulation analysis in the Dynamic Analysis and Control Laboratory. — Your Secretary had dinner the evening of this writing with Frank Baldwin and his staff to discuss detailed arrangements for the reunion. Their co-operation in making available to us the exclusive use of the new Senior House and its facilities assure us an economical and pleasant reunion. After dinner we toured the building, and it is really a unique and lavish layout. — JAMES S. CRAIG, *General Secretary*, 387 Harvard Street, Cambridge 38, Mass.

• 1948 •

With June just around the corner, your Secretary has received news of many forthcoming marriages. Bill Sewall, now with Tibbetts Industries in Camden, N.J., has become engaged to Phebe Buckman; Bob Shooshan, an engineer for Pratt and

Whitney of East Hartford, Conn., to Nancy Corrington; Bill Kruttsch, a captain in the New Jersey National Guard, to Muriel Emrich; Karl Justin to Georgianna Buffham; and Bill Russell to Teresa Silvestro. Bob Reed, currently an engineer with the Hazeltine Electronics Corporation in Long Island, to Lorraine Christian; Mo Rifkin, a graduate student at Columbia University, to Natalie Stone, who is doing graduate work at the same institution; Lyman Morgan, a graduate student in chemistry at Georgia Tech, to Evelyn Louise Garrison; Bob Dean, now affiliated with the Ultrasonic Corporation, to Edith Nancy Hayes; Thornton Smith to Shirley Wakelee; and Ensign Dan Horan, stationed aboard the carrier U.S.S. *Oriskany*, to Roberta Majesky. John Wilson, who is with the Pharmaceutical Development Laboratory of Lederle Laboratories in Pearl River, N.Y., to Elizabeth Ann Priday; and Dan Fink, who is still associated with Bell Aircraft as a dynamics engineer, to Tobie Weiss. Dan writes that another recent '48 addition to the staff at Bell is Joe Deptula, as a rocket engineer.

Weddings, too, were very much in vogue during the months just past: James Starkweather was wed to Mary Tompkins; Marvin Campen to Bonnie Jean Clark; and Francis Strabala to Alma Mastangelo; a coed, Rosemary Durnam, to Luciano Scala, who is currently doing research work at M.I.T.; Bob Murray, a technician with the B. F. Goodrich Company, to Pauline Hagan; and Donald Nelson, an aerodynamics engineer at Lockheed Aircraft, to Jane Scott. Leon Brettler was married in February to Jacqueline Voltter of New York City, and has since moved to Augusta, Ga., where he is employed as an administrative engineer for Du Pont. If there are any Tech men "of the younger variety" in the area, Leon would like to get in touch with them; for several M.I.T. men in the vicinity are thinking of starting an M.I.T. Club of Augusta.

One announcement comes of the arrival of new Technology material, Class of '71 — George Evan Weisz, born to classmate Bill and Barbara on February 2. Henry Dayton, who had been working with construction companies in Gotham, Mass., and doing free-lance furniture designing, has been drafted into the Army. Henry is originally from Czechoslovakia, where his home has been turned into an orphanage and the family's textile factory nationalized in the Communist satellite country. Also in the armed forces is Ensign Bob Ellsworth, who is a fighter pilot in the Naval Air Corps. Elias Corey, who received his B.S. in 1948 and Ph.D. in 1951, was recently appointed to the faculty of the University of Illinois as an instructor in the department of chemistry. The newspapers made important mention of Dr. Corey's contribution to his field, "one of the most significant during 1950," in a paper entitled, "The Total Synthesis of a 5-Phenylpenicillin." (If there is a chemist who happens to read this; your Secretary, a Course XV man, would like to know just vaguely what it all means.) Also breaking into print recently was Armand Feigenbaum, whose technical volume on quality control was published by

McGraw-Hill. Armand is on the staff of the manager of the General Electric aircraft turbine division in the Lynn plant.

Well, that empties the mailbag for another month. Have compassion for a struggling secretary and send news: any kind, shape, or size will do. Even if it's only to complain about the puny size of these class notes, let me hear from you. — WILLIAM R. ZIMMERMAN, *General Secretary*, in care of Kurt Salmon Associates, 3000 Albemarle Street, Washington, D.C. RICHARD H. HARRIS, *Assistant Secretary*, 19 Lancaster Street, Worcester, Mass.

• 1949 •

A pat on the back at a Harvard dance, and there was Ronnie Greene. Ronnie is with the Vulcan Mold and Iron Company in Latrobe, Pa. Last November he was promoted to plant metallurgist. Learned from Ronnie that Greg Meyer was at the University of Pittsburgh Law School. A letter from George Freund brought forth the following: Len McKibben is with American Steel Foundries in Indiana Harbor Works; Paul Gerhardt is in his second year of law school at Northwestern; Bob Gillmeister and George were collaborating their efforts on the Development Program. George is in the Naval Reactor Division of Argonne National Lab in Lemont, Ill. Warren Berry announced the birth of a daughter, Karen, on November 6. Jan Hoegfeldt dropped us a line from Kokomo, Ind., where he is working with Haynes Stellite Division of Union Carbide and Carbon Corporation. Jan is a metallurgist in the research department handling customer complaints and aiding salesmen on technical problems. Also, he has become the manager of the plant basketball team. In the course of his travels, Jan has met Warren Barr in Oak Park, Dick Pitler at the Metals Show in Chicago, and Randy Cleworth in Kokomo.

Engagements: Leslie Cline to Sylvia Good of Ventnor City, N.J. Joe Cobb to Elizabeth Norberg of Lynn, Mass. Joe is a chemical engineer with M. W. Kellogg Company of Jersey City, N.J. Roland Doran to Norma Giacobbe of Belleville, N.J. Roland is with Linde Air Products. William Gehl to Barbara Bolger of Milwaukee. James Maslon to Margery Finn of Newton Center, Mass. William McDonald to Priscilla Brown of Niagara Falls, N.Y. Bill is with Du Pont as a junior engineer in their Niagara Falls plant. Richard Perry to Barbara Coffin of Marblehead, Mass. Stuart Powell to Djuna Budington of Stamford, Conn. Stu is with the Scott Paper Company of Chester, Pa. Harold Proctor to Pauline Wilkins. Hal is with Sylvania Electric Products. Henry Rowen to Beverly Giffiths of Los Angeles, Calif.

Weddings: Louis Basel to Penelope Giatrelis on November 30 in Hamden, Conn.; their home will be Oak Ridge, Tenn. Bertram Collins to Barbara McClelland on December 23 in Scarsdale, N.Y.; Bert is with Atlantic Refining and lives in Philadelphia. Charles Smith was an usher. Lieutenant Malcolm Dick to Mary Lithgow on November 25 in Morristown, N.J. Dan Greenbaum, John Redpath, and Ewell Redpath were ushers. Oliver Hagerman to Alice Jones on February 10, in Dayton, Ohio; he is with Procter and

Gamble. Bill Howlett to Virginia Ford on December 23 in Washington, D.C. They will live in Rochester, N.Y. Stan Loomis to Carol Pope in Montclair, N.J. Alden Loud to Ruth Moody on November 18 in Morris, Conn. They are living in Boston while Al continues graduate work in the Department of Biology at Technology. Robert Lovell to Lila Kobel on November 11 in Lynn, Mass. Bob is with International Business Machines Corporation. Stan Margolin to Roslyn Praise in Newton, Mass. They are living in Wilmington, Del. Sheldon Roberts to Patricia Wiseman on October 21 in Cambridge, Mass. Al Servi to Caroline Bordetsky on August 25. They live in Cambridge. On January 19, Al passed his thesis examination for an Sc.D. degree in Metallurgy. Tom Toohy to Mary Olmsted on October 28 in Rye, N.Y. Tom was working for Procter and Gamble when he was called to active duty. He is now an ensign, stationed in Monterey, Calif. Bill Vicinus to Betty Lane of Oxford, England, on February 10 in São Paulo, Brazil. — CHARLES WILLETT HOLZWARTH, Secretary, Mellon BC-44, Harvard Business School, Soldiers Field, Boston 63, Mass.

• 1950 •

I see from the press clippings that our Technology men are still being bitten by the love bug. I am pleased to pass on to the rest of the Class the news of several engagements. My drinking buddy, Jim Baker, has finally taken the initial step. He and Grace Cover have announced their engagement and they are planning an early summer wedding. A June wedding is being planned by Mildred Downer and Caxton Foster. Incidentally, he is still at M.I.T. and is associated with the Laboratory for Nuclear Science and Engineering at present. A June wedding is being planned for Roger Milligin and Eloise Caroline Martell. Roger is now residing in Seattle, Wash., and he is currently employed as an aeronautical engineer for Boeing Aircraft. Marie Paulsen and Hollis L. Gray, Jr., both of Belmont, have announced their engagement, as has Jean Carol McCown of Chevy Chase, Md., and Nathan Mason Fales of Brewster, Mass. I have word of a couple of engagements which were announced in February but had been planned for early spring weddings. Many happy returns of the day to Mary Fish and Charles Donald Dawson, and to Ellen Mary Unwin and Michael Celentano, if the wedding bells beat the release of these notes.

And speaking of wedding bells, while glancing through the clippings this month, several of the names were similar to those I read last fall. However, then they were engagement announcements and I am happy to say that they are now wedding announcements. Dorothy Marie O'Kane and William B. Corcoran, Jr., were wed at a very impressive ceremony early in February. Bill is associated with the Draper Corporation in Hopedale, Mass., and he and Marie will make their home in Newton. Helen Ketola became the bride of Richard K. Rockstroh at a pretty church wedding in Maynard, Mass. Richard is still at Graduate School at Technology and the couple will reside in Belmont at present. Another Metropolitan Boston

wedding is reported for Nancy Keating and W. Dieter Hauser. After a pleasant wedding trip to Canada, the Hausers are settling down in Brighton. Announcement also comes of the marriage of Diana Dana of Weston, Mass., and Robert Edward Kendall of Somerville, Mass. Mary P. Doyle and Thomas Dillon were wed at an impressive nuptial mass in Brookline. The couple will make their home in Wollaston, Mass. John Herbert Bickford won't be able to complain of his tough college days to his wife, because he was wed to Anne Rosie '51, one of Technology's coeds. They will live in New Britain, Conn.

On January 18, 1951, Mr. and Mrs. Carol I. Johnson were the proudest couple in Wollaston, Mass. And rightly so, since they became the parents of their first child, a baby girl. Another news clipping tells of the whereabouts of Joseph King. Joe was called back into the Army through the reserves on November 6, and at Christmastime he was stationed at Camp Stoneman, California. — I see that some of the R.O.T.C. boys answered my call. I was very pleasantly surprised to run into Lieutenant Jack DeWitt the other day. Jack is his wonderful happy-go-lucky self. Len Caro is also here at Belvoir now. He, also, has those bright gold bars on his shoulder. As long as we are mentioning brass, Pete Poletti and Bill Clemons were also called into the Army via the reserves. Nobody seems to know where either Lieutenant Pete or Lieutenant Bill is stationed, but my contacts should find out soon and then I'll pass on the news. Jim Butterworth and his buddy, Freddy Kurzweil, are also at some post of the Army. Exactly where, I don't know right now.

I was in Boston last week end and while there I had the pleasure of seeing the Tech Show of 1951. It was a terrific take-off of "Call Me Madame" entitled, "Call Me Mummy." The Class of 1950 was very well represented at the opening night. Bob Mann, Mel Gardner, Warren Delano, 2-44, and Mark Baxter were a few of the boys I noticed. The next day, St. Patrick's Day, Jack McKenna called and invited me to a party. I was very pleasantly surprised when, upon arriving at the party, I found that it was an engagement party and that he and Dot Mahony are now happily engaged. Jack is living in Boston and is employed by the Boston Gas Company. Bob Mann, Joe O'Leary '51, Warren Houghton '49, and Roman Chapelsky '53 were a few of the Technology men present. A gala time was had by all.

It was a very busy week end for me and in my travels I found my way over to Memorial Drive. M.I.T.'s face lifting is continuing. Our favorite parking lot in front of the swimming pool is now housing the framework of the food technology wing. Frank Ruccia needed a face lifting when I ran into him, too. He was working on his '37 Ford and was full of grease, from here to here. Frank is now back with Monsanto Chemical. Jim Staikos is working in the same laboratory as Frank. Harry Raab joined the conversation "on the troubles of keeping a '37 Ford moving." Harry is finishing out his last semester in Course VI-A.

Charlie Renn looks the picture of health. And he should; he's got a South Pacific tan. Charlie is working for the Weather Bureau and is traveling all over the world. He works out of Andrew Field in Washington, D.C., but when I met him he had just returned from Europe and he was on his way to the South Pacific. Nice deal, if I must say so myself. — A news letter from Jack Cord states that he, Archer '48, and Delano are still working on the testing and analysis of bridges and shelters. Sol Mashal is still with Jackson and Moreland in Boston. Joe D'Annunzio is working for a contractor in New York City. Joe's bad back is acting up again and so far it has kept him out of the Army.

I received an excellent news report from Ed Berninger and I'll just pass it on to you intact: "For your column in The Review, I'm sending what news I have of the 1950 Phi Kaps and any Technology graduates around Cincinnati. Dick Eccles, II, is working in the aircraft gas turbine division of General Electric at Lynn, Mass. Dick spent last summer in the General Electric Boston sales office and was transferred to Lynn in September. Although he's a nonveteran and an Air Force lieutenant (via the R.O.T.C.), Dick is still a civilian as far as I know. John MacMillan, II, is studying gas turbines at Imperial College in London under a Rotary International Scholarship. He's engaged to Kay Richards (Boston University '50) with the wedding set for some time this summer. Letters and a Christmas card from Mac talk about plans to ski in the Alps and visit Colonel Crossman (M.I.T. ordnance R.O.T.C. boss, now in Germany) during Christmas vacation. From all reports, he is really enjoying study abroad. Jack Reeves, VII, is in his first year at the University of Pennsylvania Medical School. Howie Larsen, X, spent the summer and fall at Oak Ridge Practice School, January at M.I.T., and is now studying at the University of Illinois where he expects to receive his masters in the summer. Dick Lemmerman, X, is taking graduate work at Technology in Physics and Chemical Engineering. Lem is married and living in or around Natick. Gordon Evans, IX, is studying at Cornell Law School in Ithaca. John Kocher, II, one of the few Phi Kaps who didn't go into R.O.T.C., is also the only one in service. John was drafted last fall. Lennie Smith, XV, is working in or around New York City for a management consultant. Stener Rosenberg, I, has returned to his native Norway at last report. Jack Corrie, II (how did a Theta Chi get in here), is at the Harvard Business School.

"Here in Cincinnati, several M.I.T. 1950 graduates are working, including Dirk de Vries, XV, who is working for Procter and Gamble in their general buying department. Dirk is engaged to Jo El-lamen, former Technology secretary whose home is in nearby Troy, Ohio. The wedding is set for sometime this spring. St. John Bain, IX, is working in Formica's Engineering Department, here in Cincinnati, on research and development of laminated plastics. Dick Stephan, XIV, is another Formica man. Dick is now in their Philadelphia sales office after completing a sales training course here in Cincinnati.

Charlie Davis, XX, '49, and X, '50, is in training for production work in Procter and Gamble's overseas division. At present he is learning all about making Tide at Procter and Gamble's St. Bernard plant on the outskirts of Cincinnati. Charlie was married last fall. Saff Peacock, XV, was working for Cincinnati Milling Machine Company last summer and fall, but is now in the armed forces somewhere. Ed Fox, II, is here working in the Procter and Gamble central engineering division on process equipment heat transfer work. Vern Ellenberger, I, is working here in

Procter and Gamble's overseas division. As for myself, Ed Berninger, II, I'm also in Procter and Gamble's engineering division where I'm doing very interesting and varied work in the heat and power department. I've found both Procter and Gamble and Cincinnati most enjoyable."

Thanks, Ed, for a fine job of reporting. — I ran into Ulysses A. Pournaras, XIII, again. He is here at Belvoir, going to school and learning all about being a construction foreman. Ulysses informs me that John Nicholson's (V) sister, Anne Nicholson, was to be wed to D. George

Dimitriou sometime in April. — As for Private John Weaver, I'm still here at Belvoir. I've applied for Officer's Candidate School and right now I'm going through an eight-week course in Army leadership. I won't know for some time yet, but I hope to be able to attend the new engineer O.C.S. that is scheduled to open here in Belvoir this summer. Time will tell. In the meantime, I hope all of you who can, are making plans to attend Alumni Day on Monday, June 11. — JOHN T. WEAVER, General Secretary, 1772 East Tremont Avenue, New York 60, N.Y.

ALUMNI DAY, MONDAY, JUNE 11, 1951

Your program will include:

Departmental reunions. Thirteen Courses will hold their own reunions on the morning of Alumni Day — a chance to visit with Alumni and Faculty of your Department. 10:30 A.M.

Luncheon. In the Great Court with friends and family. 12:30 P.M.

President Killian's Open House. Meet President and Mrs. Killian at their Open House for Alumni and guests attending the day's events. 4:00 P.M.

Inspection Tours. A chance to visit such new facilities as the new Hydrodynamics Laboratory and Ship Model Towing Tank and the 12-M.E.V. Van de Graaff generator.

Alumni Banquet. The annual banquet, for the second year at the Copley Plaza Hotel, with the most distinctive stein yet to add to your collection. 7:00 P.M.

For the Ladies — A Special Program

ALCOHOLS

Methanol — synthetic
Methanol — from wood distillation
Ethanol — industrial grades from molasses and grain
Ethanol — from sulfite waste liquor
Ethanol — anhydrous, Vulcan process
Ethyl Alcohol — beverage, neutral spirits
Isopropanol

Allyl alcohol

Butanol

ESTERS

Methyl acetate
Ethyl acetate
Butyl acetate
Vinyl acetate
Dibutyl phthalate

ALDEHYDES

Acetaldehyde
Butyraldehyde
Furfural

ETHERS

Ethyl ether
Isopropyl ether

KETONES

Acetone
Methyl ethyl ketone

GLYCOLS

Ethylene glycol

Butylene glycol

CHLORINATED HYDROCARBONS

Chloroethane
Chlorobenzenes
Chlorotoluenes

ACIDS

Formic acid
Acetic acid — from wood distillation
Acetic acid — from process residues and solvent recovery
Acetic anhydride
Propionic acid
Butyric acid
Stearic acid

DDT

HYDROCARBONS

Butadiene Toluene
Heptane Styrene
Benzene Diphenyl

PHENOLS

Phenol
Naphthal

MISCELLANEOUS

Citronellal Essential oils
Cottonseed Oil Cellulose derivatives
Geraniol

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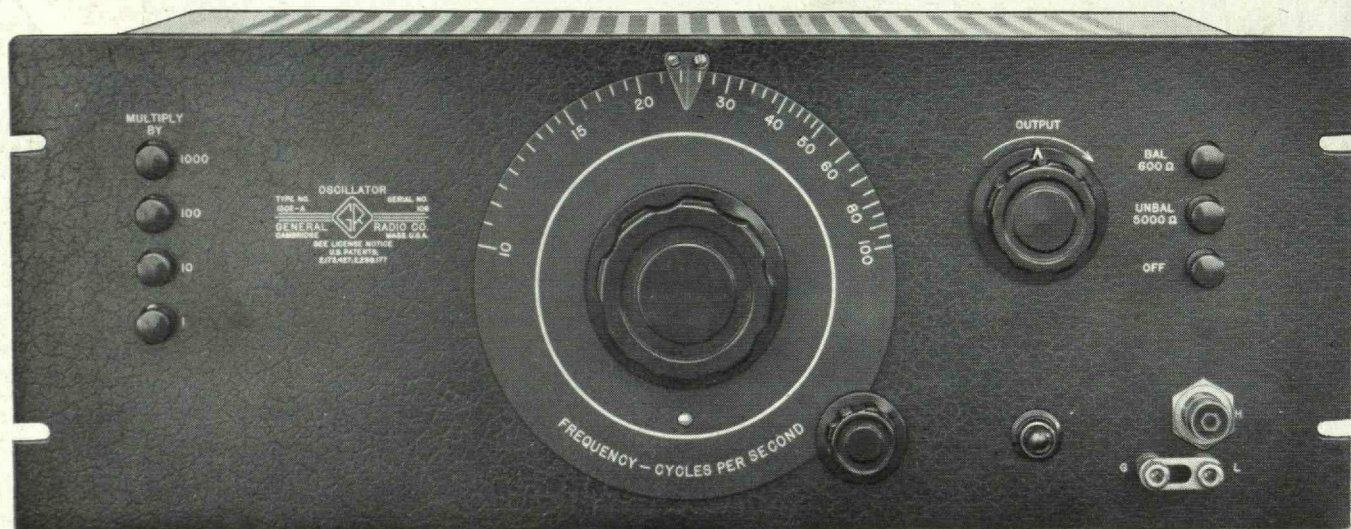
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Modified Wien Bridge with two-stage amplifier feedback circuit; variable condensers used in place of variable resistors for frequency-controlling elements.

Buffer Amplifier output control ahead of final amplifier avoiding any effects on balance and magnitude of load impedances.

Constant Output Level — within ± 1 db by use of bridge-type automatic amplitude control; 80 milliwatts into 5000-ohm unbalanced load and 40 milliwatts into 600-ohm balanced load.

Extremely Small Frequency Drift — drift is constant percentage of operating frequency; warm-up drift less than 1% in first 10 minutes and less than 0.2% per hour thereafter.

Low Harmonic Distortion — less than 1% at all frequencies and output values.

Voltage-Regulated Power Supply eliminates effects of line voltage variations between 105 and 125 (210 and 250) volts.

Two Output Circuits — balanced 600 ohms and unbalanced 5,000 ohms.

Coaxial Output Connector for using oscillator for bridge measurements with very sensitive detectors. Binding post output terminals provided, also.

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